PERIODICAL ROOM
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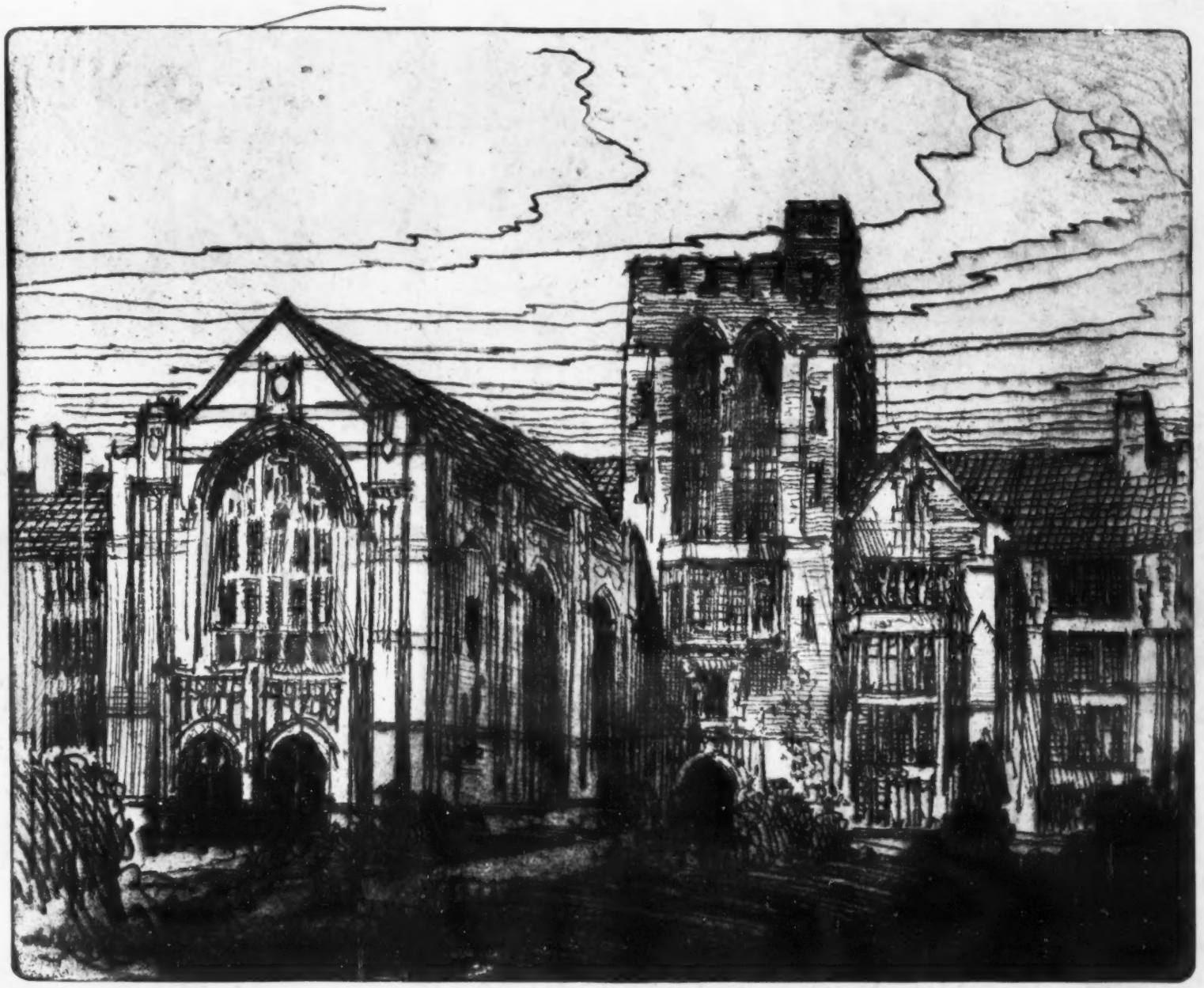
JUL 6 1926

THE AMERICAN
School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION

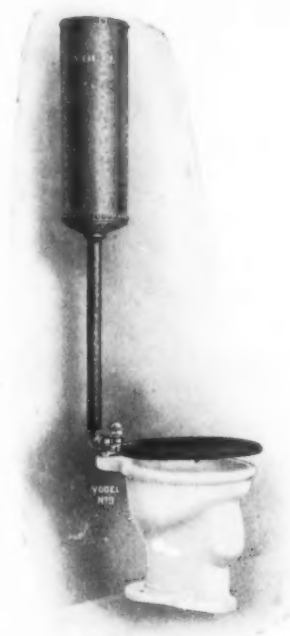


JULY, 1926

The Bruce Publishing Company
Milwaukee, Wis.

Annual School Equipment and Supplies Number

This is the new George Gray School at Wilmington, Del., in which are installed sixty-three VOGEL PATENTED No. 9 school closets.



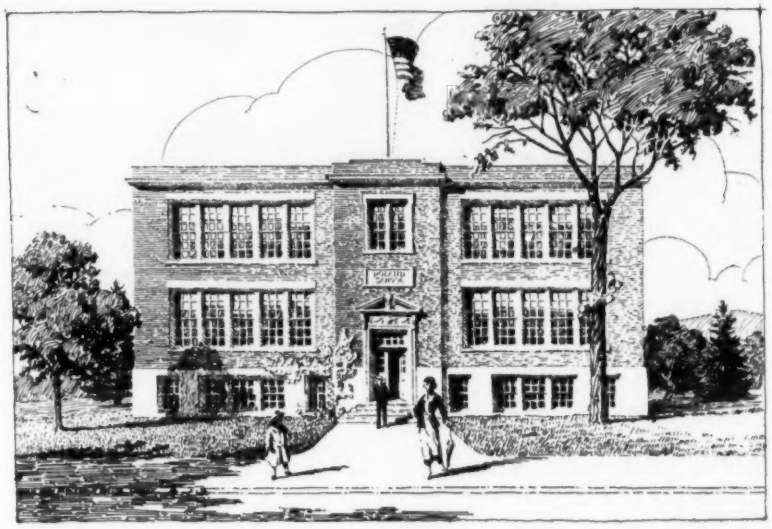
These closets are made to stand the rough usage of the school water closet.

- Economical in the use of water.
- Seldom require repairs.
- Easy of access when repairs are necessary.
- The simplest and most durable automatic water closet.
- Many Thousands in use.

Sold by Wholesalers of Plumbing Supplies Everywhere

JOSEPH A. VOGEL CO.

Wilmington, Delaware **St. Louis, Missouri**



NATURAL SLATE BLACKBOARDS

"MORE PERMANENT THAN THE FINEST BUILDINGS!"
"NO UP-KEEP EXPENSE WHATSOEVER!"
"EASY TO READ FROM!"
"CONSTANTLY SANITARY!"
"EASY TO WRITE ON!"
"FIRE-PROOF!"

No wonder authorities on Education enthusiastically recommend NATURAL SLATE BLACKBOARDS as the very best material for modern School Buildings.

Remember—another great feature—your orders will receive unusual promptness and cooperation the minute they arrive.

Write for bulletin:—"Natural Slate for Blackboards." It is an interesting and complete study on the quarrying, manufacturing and installing of Natural Slate Blackboards—with Basic Specifications.

NATURAL SLATE BLACKBOARD CO.

108 Robinson Avenue
PEN ARGYL, PA.

USE SLATE *for* these purposes

Stairways, Toilet Enclosures, Urinal Stalls, Shower Stalls.

Caps, Bases, Wainscots, Floors, Laundry Tubs, Sinks, Lavatory Tops.

Blackboards, Sewage Tanks, Vaults, Mausoleum Crypts.

Laboratory Table Tops, Aquaria.

Range Hearths, Fireplaces, Sills, Recess Linings, Copings and Steps, Paving, Column Bases, Areas, Chimney Caps, Base Courses, Shelving, Cornice Supports, etc., etc., etc.

The Johnson System is the more practical and reliably performing automatic temperature and humidity regulation in schools—because Johnson wall thermostats are sealed against being tampered with by mischievous or unauthorized hands. Thus the Johnson System remains in accurate operation always; *dependably* maintaining correct temperature and humidity conditions, preventing overheating and reducing fuel consumption enormously.

JOHNSON SERVICE COMPANY

Factory and Main Office—MILWAUKEE, WIS., U. S. A.

TWENTY-NINE BRANCHES, UNITED STATES AND CANADA
AUTOMATIC TEMPERATURE REGULATION SINCE 1885

JOHNSON

SYSTEM OF TEMPERATURE AND HUMIDITY CONTROL

The All Metal System: And Designed, Manufactured, Installed Solely And Entirely By Johnson Engineers And Mechanics: Assuring Thoroughly Correct, Reliable Results Permanently.

JSC

Johnson Dual or Two Temperature Thermostat: one temperature for occupied rooms, another temperature for unoccupied rooms—day or night. Write for details.

KEWANEE

Steel Boilers

Size is important

You can make a boiler do the work of a larger one by "pushing" it. ***But it is uneconomical to do so.*** The more a boiler is pushed the less heat you get from each pound of your fuel.

The generous size of Kewanee Boilers makes this costly "rapid firing" unnecessary, because they will produce the steam guaranteed by their rated capacities without being pushed.

Yes—size is important. It affects the pocket book of every building owner.

BY INVITATION MEMBER OF

NEW YORK, U. S. A.

KEWANEE BOILER COMPANY KEWANEE, ILLINOIS

BRANCHES

Atlanta, Ga. Birmingham, Ala. Boston, Mass. Charlotte, N. C. Chattanooga, Tenn. Chicago, Ill. Cincinnati, O. Cleveland, O. Dallas, Tex. Denver, Colo. Des Moines, Ia. Detroit, Mich. El Paso, Texas Grand Rapids, Mich. Indianapolis, Ind. Kansas City, Mo. Los Angeles, Calif. Memphis, Tenn. Milwaukee, Wis. Minneapolis, Minn. New Orleans, La. Philadelphia, Pa. Pittsburgh, Pa. St. Louis, Mo. Salt Lake City, U. San Antonio, Tex. San Francisco, Cal. Seattle, Wash. Spokane, Wash. Toledo, O. Toronto, Ont., Can. New York City, N. Y.

STEEL HEATING BOILERS, RADIATORS, WATER HEATERS, TANKS AND WATER HEATING GARBAGE BURNERS

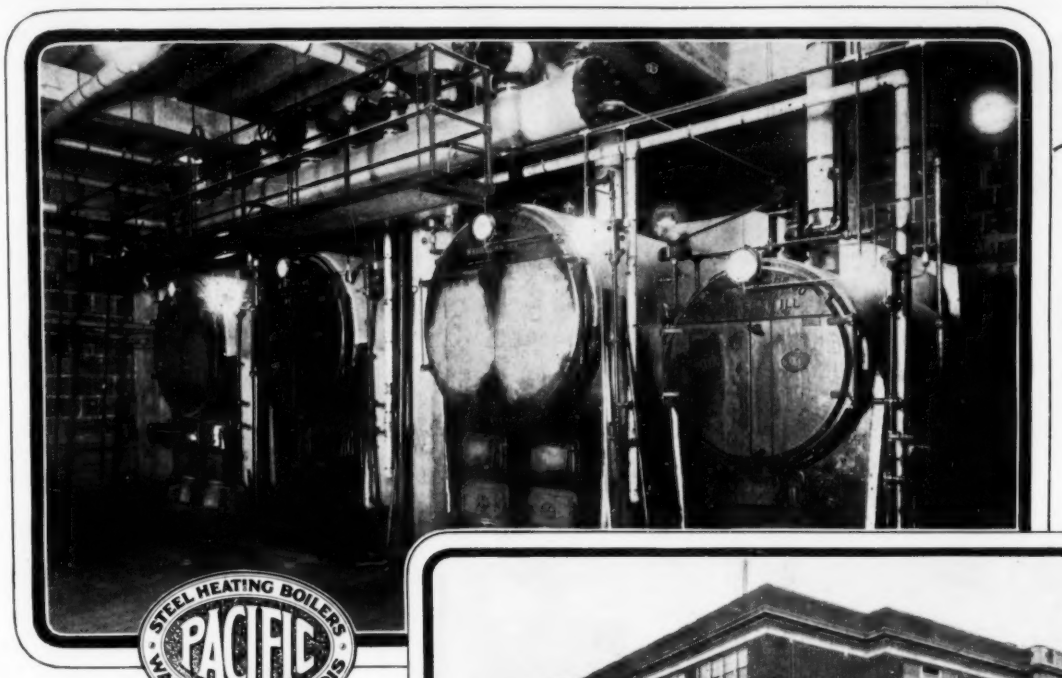
Von Duprin

TRADE MARK REG. U.S. PATENT OFFICE

Self-Releasing Fire Exit Latches

The rugged strength of Von Duprin latches, and their simplicity of design, are the direct result of many years of constant effort toward perfection.

VONNEGUT
HARDWARE CO.
Indianapolis, Ind.
ESTABLISHED 1852



Boiler room of John Marshall High School, Minneapolis, Minnesota. Three 18,000' Pacific Down Draft Boilers for heating and one 6,500' Pacific Down Draft Boiler for hot water heating and steam tables installed by A. B. Donaldson Company.

John Marshall High School, Minneapolis, Minnesota. Planned by the Minneapolis Board of Education Bureau of Buildings. E. H. Enger, Architectural Engineer. F. H. Hafey, Senior Architectural Draftsman. A. L. Sanford, Mechanical Engineer.

MINNEAPOLIS 5 PUBLIC SCHOOLS PACIFIC HEATED

Minneapolis is known throughout the country for its carefully planned school buildings and its exacting requirements for mechanical equipment.

Temperatures in Minneapolis range to —33°, with many consecutive days of below-zero weather. All heating loads for Minneapolis public schools are based on heating buildings from —10° to +70°. Consequently, a boiler that will develop a 50% overload is absolutely necessary.

On actual capacity tests made by the Engineering Department of the Minneapolis Board of Education, Pacific Down Draft Boilers developed an 81½% overload, with high efficiency!

High overload capacity, ease and economy of operating; also saving of floor space make Pacific Down Draft Boilers the safe choice for heating school buildings.

Write today for complete information.

GENERAL BOILERS COMPANY
Waukegan, Illinois.
Branch Offices in Principal Cities

PACIFIC
STEEL HEATING BOILERS

SPENCER

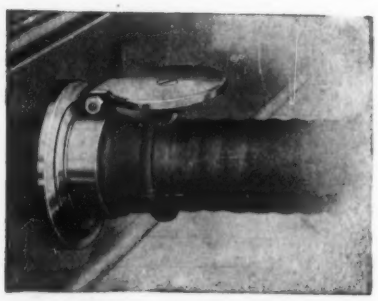
1 Central Cleaning System

The Multi-Stage Turbine

Spencer Central Cleaning Systems for school buildings have been especially developed to meet the exacting requirements of this particular type of service, and represent, without question, the most thorough, efficient and economical method of cleaning the modern school.

A system of rugged construction, thoroughly perfected in every essential, the Spencer is a machine of great simplicity and durability. There are no valves, belts, chain drives or other complicated mechanisms requiring constant adjustment and repair. The cleaning appliances and tools are few, simple and strong — all wearing surfaces, easily, quickly and inexpensively replaced.

The Spencer System has met with the approval of architects and engineers throughout the entire country and has been adopted for a greater number of important buildings than all other systems combined. Over 1,200 installations in schools alone is convincing evidence of Spencer popularity.



Spencer patented inlet valve in baseboard with hose attached. Note that hose is held in place by the cover, a feature exclusive to Spencer.

The recommendations of our Engineering Department may be obtained on any cleaning problem without cost or obligation.

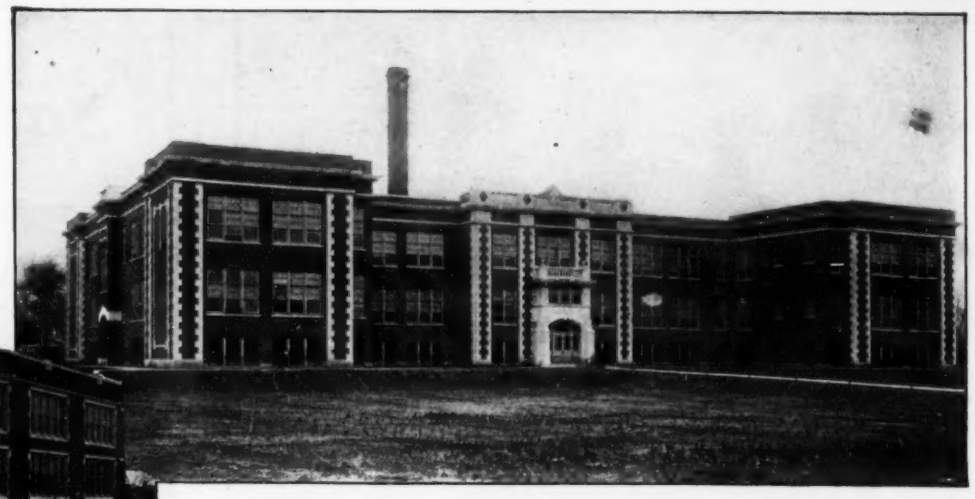
Write for list of school installations and complete data regarding Spencer equipment.

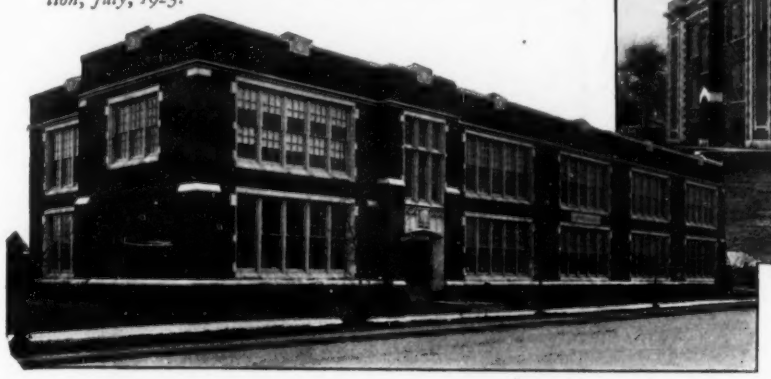
The Spencer Turbine Company

HARTFORD, CONNECTICUT

At right—Hawthorne School, East St. Louis, Ill. 635 Columbia *Star shades on* Columbia *rollers. A. B. Frankel, East St. Louis, Ill. — Architect; A. O. Godt, East St. Louis, Ill. — Shade installation.*

Below—Robinson School, Detroit, Mich. 150 Columbia *Crescent Tint shades on* Columbia *rollers. Malcolmson & Higginbotham, Detroit—Architect; M. A. Mahoney, Detroit—Contractor; D & C Window Shade Co., Detroit—Shade installation, July, 1925.*





Thousands of shades of satisfaction

Hardly a city in this broad country but boasts thousands of shades of satisfaction — for *Columbia* window shades are built to satisfy *and they do it!*

Even in public schools where personal pride in ownership may be lacking, *Columbia* shades give extraordinary service. And *Columbia* shades of unexcelled quality and durability cost no more than other shades.

They may go up and down a dozen times a day, month after month, year after year, yet they're always ready to perform their function—to prevent glare, mellow the light and help obviate eyestrain.

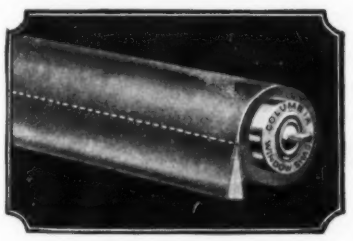
For both *Columbia* shade cloth and *Columbia* rollers are made to stand up where ordinary shades fail—in short, to give maximum service and satisfaction. That's why it pays to specify *Columbia* shades and rollers when buying new school equipment.

Columbia shades are used in the schools here pictured and in many other school and college buildings the country over.

The *Columbia* Mills Inc.

225 Fifth Avenue, New York

Boston Chicago Cincinnati Cleveland Detroit Kansas City Minneapolis New Orleans Pittsburgh Philadelphia St. Louis Portland (Ore.) Fresno San Francisco Los Angeles



There is a marked difference between *Columbia* window shade rollers and those of other makes. *Columbia* rollers are not only more rugged, durable and silent in operation, but incorporate numerous detail refinements, such as nickel-plated ferrules that are rust-proof.

You can save time and trouble

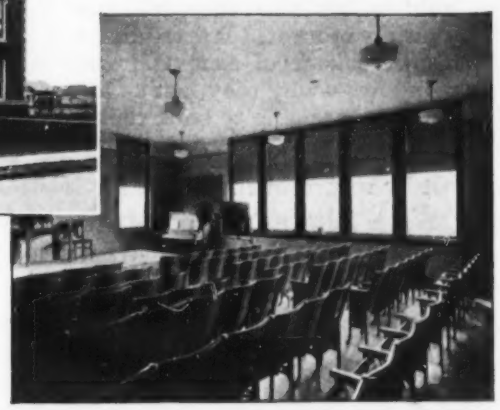
and insure shade satisfaction by using the Standard Specification for Window Shades which we'll gladly send on request. A specimen roller and samples of *Columbia* Cloth are sent with the specification. Just fill in coupon and mail to The *Columbia* Mills Inc., 225 Fifth Avenue, New York.

Name.....

Street.....

City.....S-7-26

At left—Sherrill School, Detroit, Mich. 200 Columbia *Crescent Tint shades on* Columbia *rollers. Malcolmson & Higginbotham, Detroit — Architect; Culbertson & Kelly, Detroit—Contractor; D & C Window Shade Co., Detroit—Shade installation, August, 1925.*



Room and well-lighted class room in Sherrill School, Detroit, Mich.

Columbia

GUARANTEED

WINDOW SHADES *and* ROLLERS

Now! One Boiler does a job

that was formerly too big for two!

Two years ago it was virtually impossible to keep the class-rooms of the Glenfield, N. D., Consolidated School comfortably heated in cold weather—even with huge fires roaring in the school's two big boilers.

But now? Let Lars Walen, clerk of Glenfield Consolidated School District No. 14, tell you the story, as he told it to us in his interesting letter of Jan. 25, 1926:

> "It has been nearly two years since we installed Monarch Metal Weather Strips on our consolidated school building," writes Mr. Walen. "We are agreeably surprised with the result.
>
> "Without Monarch Metal Weather Strips we found it necessary to use both of our boilers practically all winter, and even then it was hard to keep the rooms comfortable in cold weather.
>
> "There have been only a few days in the last two years that we have used the second boiler at all, and the building has been ever so much more comfortable even on extremely cold days.
>
> "In addition to the increased comfort, the fuel saving has amounted to one-fourth, so that in all we feel Monarch Strips have proved a very profitable investment for us."

What Monarch Strips have done at this Glenfield, N. D., school, and hundreds of other schools throughout the country, they will do on your school. How and why are told in the interesting free booklet we will gladly send you on request. It explains why Monarch Strips stop the inleakage of excess air through the cracks around windows—why they last as long as the building itself—why we are able to back them with a double guarantee.

A post-card request will bring you a copy of this booklet by return mail. Write for it—NOW!

MONARCH METAL PRODUCTS CO.
4930 Penrose St., St. Louis, Mo.

Manufacturers of Monarch Metal Weather Strips for Wood Windows and Doors
Representatives in All Principal Cities

MONARCH
METAL WEATHER STRIPS

Safety in Schools

School officials, who are responsible for the protection of the lives of the pupils and are anxious to make proper provision for quick exit in case of fire or panic, will find in

SARGENT

Fire Exit Door Bolts
an adequate equipment which meets all conditions. The Sargent Cylinder Locks with which they are fitted provide for complete security and prevent entrance from the outside of the building when school is not in session, while they can be arranged to permit entrance during school hours, if desired.

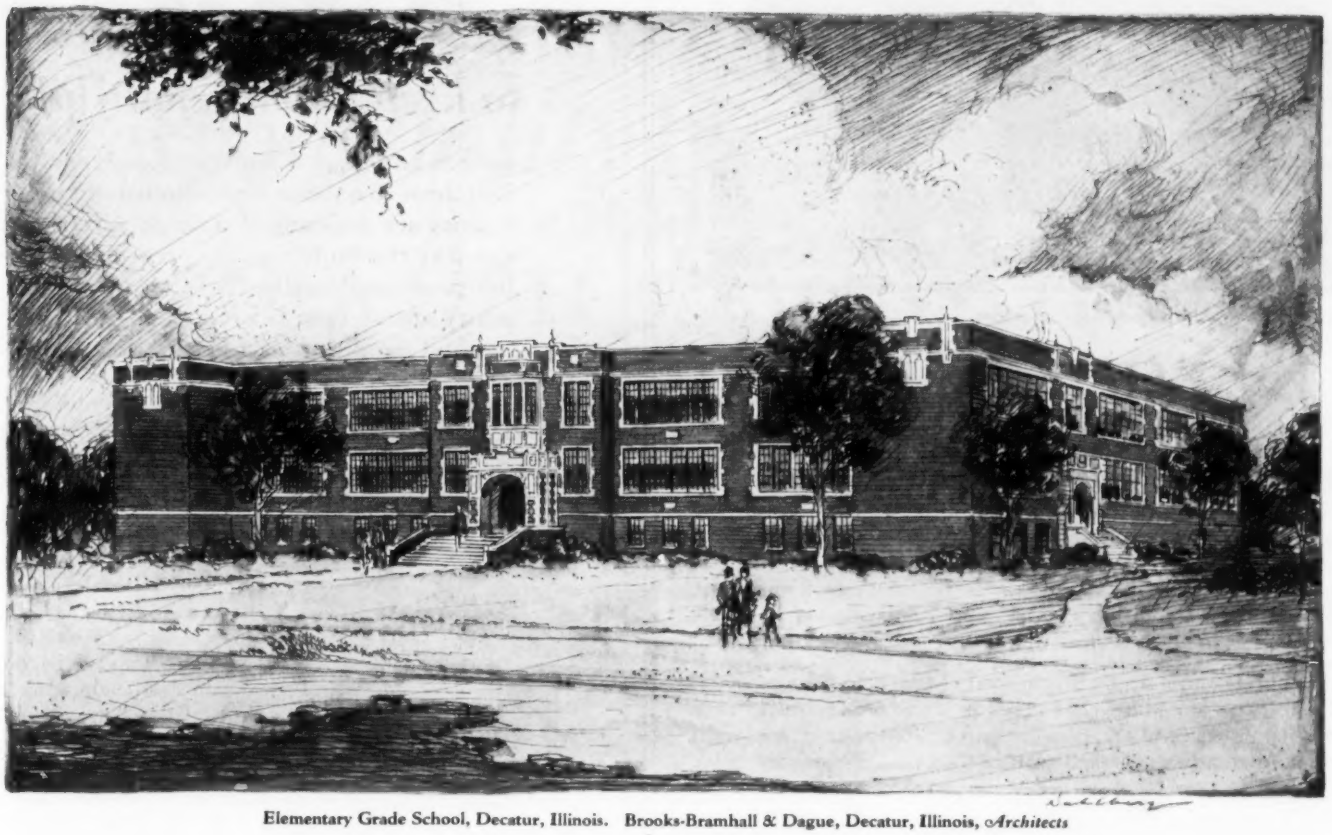
Quick Exit at All Times
is provided and in case of necessity the doors can be instantly opened by slight pressure on the handle bars at any point.

Door Checks
close the doors, during their day by day use, quickly and quietly, the application shown in the illustration with the Sargent special foot (No. 35) being particularly desirable.

Sargent Fire Exit Door Bolts, Locks and Hardware are sold by representative dealers in all cities.

SARGENT & COMPANY

Manufacturers
New Haven, Conn.
New York Chicago



Elementary Grade School, Decatur, Illinois. Brooks-Bramhall & Dague, Decatur, Illinois, *Architects*

Univent is building reputations

The Univent makes these school children happy and healthy

UNIVENT (TRADE MARK)

VENTILATION

Recess periods allow children to regain mental alertness by filling their lungs with fresh air; they afford an opportunity to replace the vitiated air in schoolrooms.

Univent brings these advantages every minute of the school day. It operates independently in each room—drawing fresh air from outdoors, cleaning, warming and diffusing the air without drafts.

"Univent Ventilation" is approved by architects, school boards and school officials because the *continuous* supply of fresh air insures brighter, healthier children, more efficiency in teachers and less sickness.

Write for book containing complete information —both technical and non-technical.

Manufactured only by

THE HERMAN NELSON CORPORATION *Moline, Ill.*

Sales and Service

BELFAST, ME.	PHILADELPHIA	CLEVELAND	DES MOINES	EMPORIA	SPOKANE
BOSTON	SCRANTON	COLUMBUS	MILWAUKEE	OMAHA	PORTLAND
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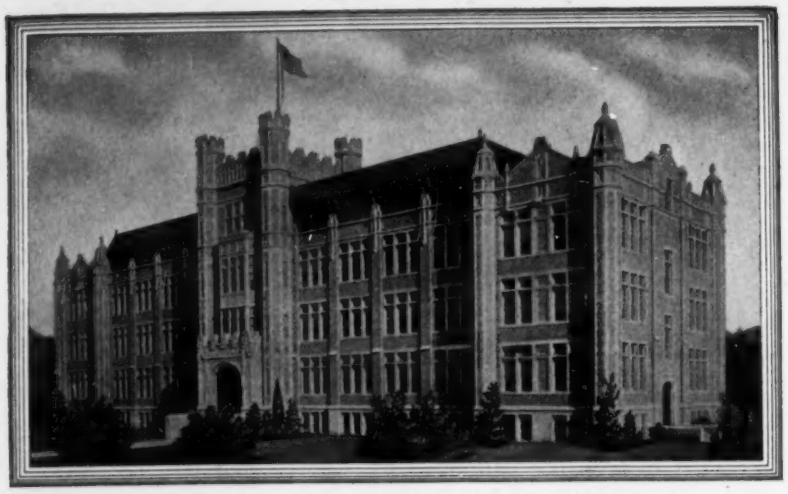


Oak Floors are in use in the Women's Institute of Domestic Arts and Sciences, Scranton, Pa.

SANITATION

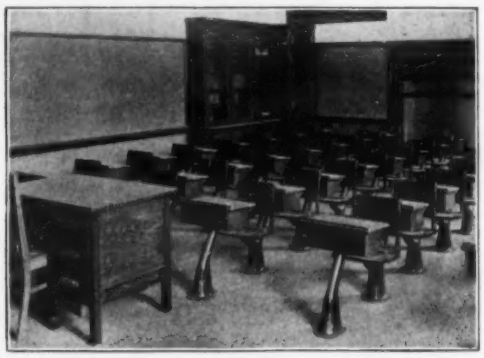
—a prime requisite in school floors

In schools, hundreds of feet tramp in and out daily, tracking dust and dirt. The wear on the floor is continuous and extreme. No material meets the need as does Oak Flooring. It is Nature's own product, healthful under foot, shock-resisting, not cold or artificial; yet it is a permanent floor, enduring heaviest wear, and always beautiful.

Every day should find school floors bright and clean, if buildings are to maintain themselves on the plane that modern standards require. It is easily possible with floors of OAK, laid in tight continuous strips, with no cracks to collect dirt, and a polished surface that makes cleaning easy.

Permanence

As a matter of expense, permanence is as important as sanitation from a health point of view. Oak floors will last; they never need replacement, and with minimum care they keep in perfect condition. The finish, whenever necessary, may be quickly and cheaply renewed.



Economy

Initial cost is low. Upkeep expense is low. When service covers years of hardest usage without deterioration, the economy of oak floors is unquestioned.

Oak Flooring, with side and end matching accurately milled, forms a secure and sound anchorage for desks.

Beauty

The atmosphere of the place where children spend a large part of their character-forming days, is closely studied in the modern school. Sturdy American oak builds respect for soundness and good taste.

Send for valuable free literature

The advantages of oak floors are fully brought out in literature available for your reference files, which will be mailed on request to school board members, and those interested in the equipment and maintenance of schools.

OAK FLOORING BUREAU
867 Hearst Bldg., *Chicago*

Put your flooring problems up to our experienced experts. We will help you without obligation.

Consult an Architect Before Building

This advice appears in all our national magazine advertising.

Mail the coupon for "The Story of Oak Floors," a 24-page illustrated booklet, containing color plates of the new modern finishes, which harmonize with room decoration.

OAK FLOORING BUREAU, 867 Hearst Bldg., *Chicago*

Send me "THE STORY OF OAK FLOORS," a 24-page book with color plates of the new modern finishes; also other useful literature for reference files.

Name.....

Address.....

City..... *State*.....

5 ways

to keep down repair bills

School buildings will always need repairs. But how frequent and extensive these repairs are depends to a large extent on the way the buildings are protected. The five products described below have helped many school boards keep their buildings in good condition at a low cost.

1 *Concrete floors*

Hundreds of scuffing young feet put a tremendous test on even the best concrete floor. Constant friction wears down the surface. Dust seems to come from everywhere. This dust is harmful to lungs, clothing, and equipment. The wearing down of the concrete floor surface leads to expensive repair work.

A treatment of Lapidolith will make this dust and wear a thing of the past. Lapidolith is a liquid, chemical floor hardener. It looks much like water and is just as easy to apply. Its effect is almost miraculous. It penetrates the porous cement, binds the loose particles together, and fills in the voids. The result is a fine, even, close-grained concrete surface that is flint-like in its hardness.

One treatment is all that is necessary. A floor treated at night is ready for use in the morning. Lapidolith will make your concrete floors dustproof, waterproof, and wearproof.

2 *Roofs*

Roof leaks are an expensive nuisance—a nuisance and an expense that can be avoided by the use of Stormtight.

Stormtight is a thick, adhesive, elastic coating that stops roof leaks instantly, and, when applied over the entire roof, keeps leaks from developing. It adds years of life to old, worn-out roofs. It can be applied by anyone to any roofing material. You can buy it in a variety of sizes in semi-liquid or plastic form.

3 *Painted surfaces*

Every school building has to be repainted from time to time. But Cemcoat will make repainting time come around less often. Cemcoat is a gloss, eggshell, or flat enamel paint the wearing qualities of which are astonishing. It retains its glossy whiteness long after most paints turn yellow.

Cemcoat can be washed again and again. Ink stains and finger-marks can be washed off as easily as from a polished surface. Because of its heavy body it usually requires one coat less on a given surface. It does not crack or peel even on a brick, plaster, or concrete wall. Cemcoat is made for exteriors as well as interiors, in white and colors.

4 *Wood floors*

Wood floors are just as easy to protect as those of concrete. Lignophol, a preservative dressing that penetrates the wood fibres and restores the natural gum and oil, keeps wood floors from rotting, splintering, or drying out. It does away with the need for messy floor oils. One treatment gives you a smooth, dustless floor that will wear for years.

5 *Exterior walls*

Are your buildings hard to keep warm? Are they damp in wet weather? A treatment of Hydrocide Colorless will work wonders in giving you warm, dry buildings.

Hydrocide Colorless is a liquid that is invisible when applied to the exterior of a building. It preserves and protects the natural beauty of the walls. It will not collect dust. It will give you permanent damp-insurance.

We shall be glad to send you literature and a free demonstration sample on any of these products.

L. Sonneborn Sons, Inc.
114 Fifth Avenue, New York City

ECONOMIC *and* MORAL
Responsibility Rests Upon You
as a Member of the
HEALTH COUNCIL*

IN planning a new school a dual responsibility rests upon school board and architect. The moral obligation of providing quarters that will be healthful for class after class is plain. Clear, too, is the obligation to give present tax payers the best value for their money. But there is a further economic responsibility—planning a school from which but few pupils will be absent because of sickness.

The HEALTH COUNCIL*

Because — in the building of every modern school — health, as well as mental efficiency, of many generations of school children, depend on the decisions of this small group of public spirited citizens (School Board members, Superintendent, Architect) — we refer to them here as "THE HEALTH COUNCIL."

School costs run on whether pupils come or not. In one community alone the loss chargeable to absences due to respiratory diseases (diseases practically eliminated by correct heating and ventilation) was estimated at more than half the total loss through absences caused by illness. The American System ventilates and warms at the same time. Every eight minutes, class room air is completely replaced by fresh air that has been warmed and humidified. With conditions like June weather loss through absence is cut down.

"The American System" of *Heat with Ventilation* that so safeguards the economic efficiency of your investment is of low first cost and of low operating cost.

There are no boilers, piping, radiators. The heaters are of cast iron. Any type of fuel may be used. The number of units fired may vary with weather conditions. American Systems installed over thirty-five years ago are still in efficient service. One company, through its authorized representatives, has installed and guaranteed every one.

This is the time for you to get full information about this system that you can approve from both economy and health points of view. Write us or the nearest representative.

Memo to* ALL *Architects!

While this advertisement features schools, THE AMERICAN SYSTEM is also ideal for any building where fresh, warmed, humidified air is needed in ample quantities at reasonable costs (Schools, Theatres, Churches, Factories, Auditoriums, Public Garages, etc.). Write us for specific facts and call on our engineering department for technical data or actual help in solving your heating and ventilating problems.

The American System *of* Heat *with* Ventilation

Equipment manufactured and guaranteed by

The American Foundry and Furnace Co., Bloomington, Ill.

Engineering and installations complete by

American Foundry & Furnace Co.
Bloomington, Ill. Milwaukee, Wis.
Chicago, Ill. St. Paul, Minn.
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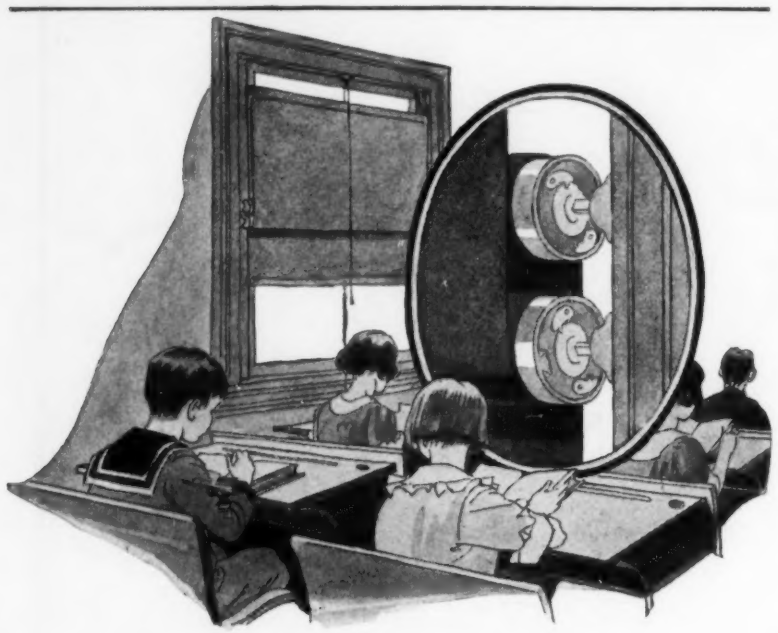
A SHADE IS ONLY AS GOOD AS ITS ROLLER



Good Discipline
applies to window shades

WHAT is your aim in choosing school-room equipment? Isn't your whole purpose to make the teacher's work more efficient?

If a window shade balks when a class is in session, the pupils' attention is distracted; the teacher has to repeat.

The window shade mounted on a Hartshorn Roller is fool-proof. It glides up and down, perfectly obedient to the teacher's will. The Hartshorn is the perfect roller mechanism, for Stewart Hartshorn invented it 60 years ago and its service has been proved in almost every American home. Insist on the Hartshorn Roller.

Maps and charts are expensive—mount them on Hartshorn Rollers.

There are Hartshorn Shade Cloths which, mounted on Hartshorn Rollers, will give you the best there is in shade equipment. For the school room, specify Hartshorn's Oswego Tinted Cambric mounted on Hartshorn Rollers with No. 86 or 87 double brackets.

Write for name of dealer through whom you can secure Hartshorn Shade Products and for samples of colors: Sage, Linen, Putty, Dust, Dill, in Tinted Cambric especially adapted for school use.

Hartshorn
SHADE PRODUCTS
Established 1860

STEWART HARTSHORN CO., 250 FIFTH AVE., NEW YORK CITY

Undivided Responsibility!

The Cyclone Fence Company controls the quality of its product from the ore to the complete manufactured fence. Provides complete engineering and installation service for fencing school grounds. No subletting of the work. Undivided responsibility.

Volume production and improved methods make Cyclone prices lower today than ever before. Phone, wire or write nearest offices.

CYCLONE FENCE COMPANY

Factories and Offices:

Waukegan, Ill., Cleveland, Ohio, Newark, N. J., Fort Worth, Texas.

Pacific Coast Distributors:

Standard Fence Co., Oakland, Calif.
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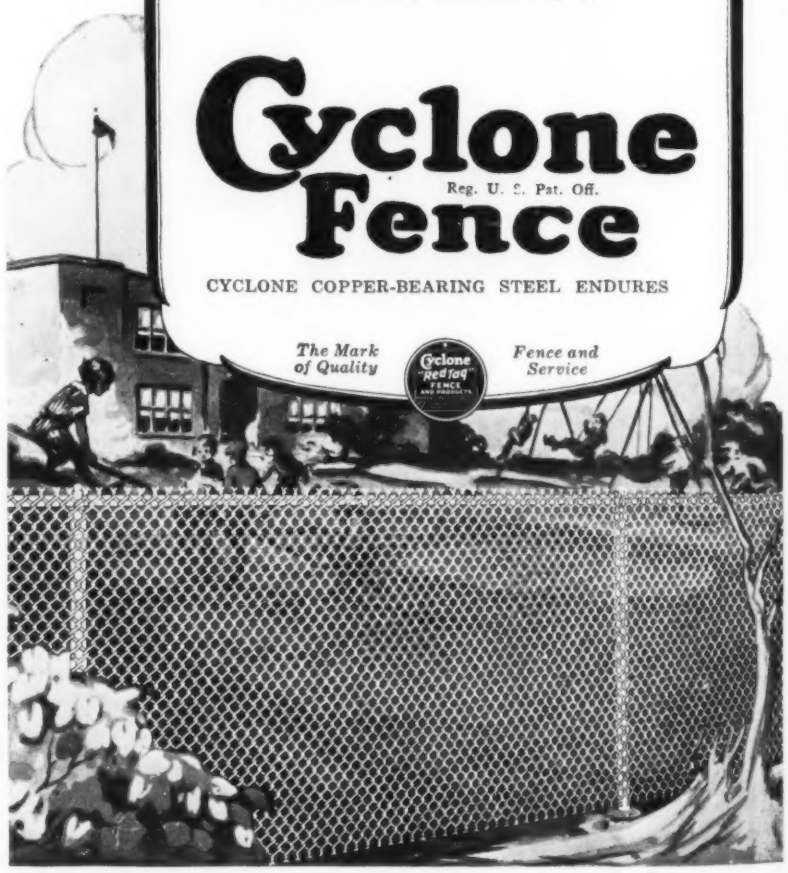
We also build Wrought Iron Fence for Any School Purpose.



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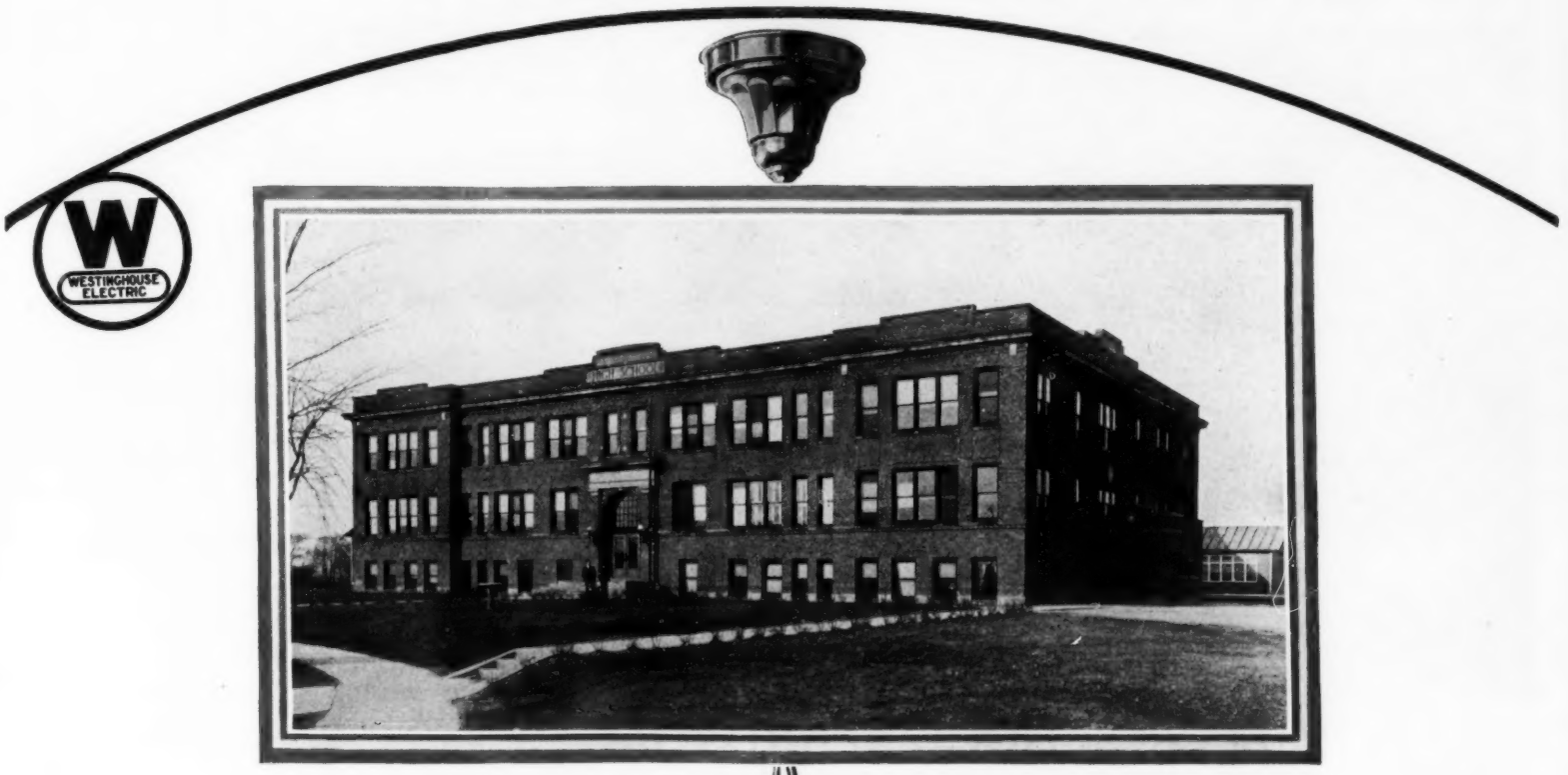

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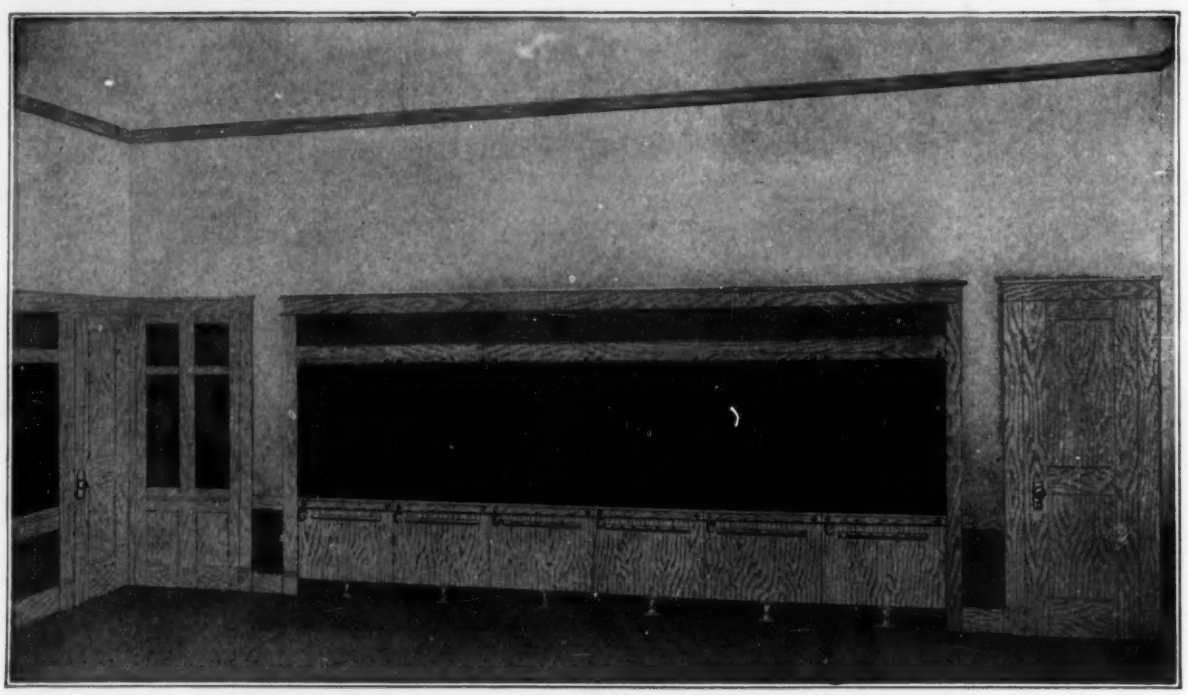

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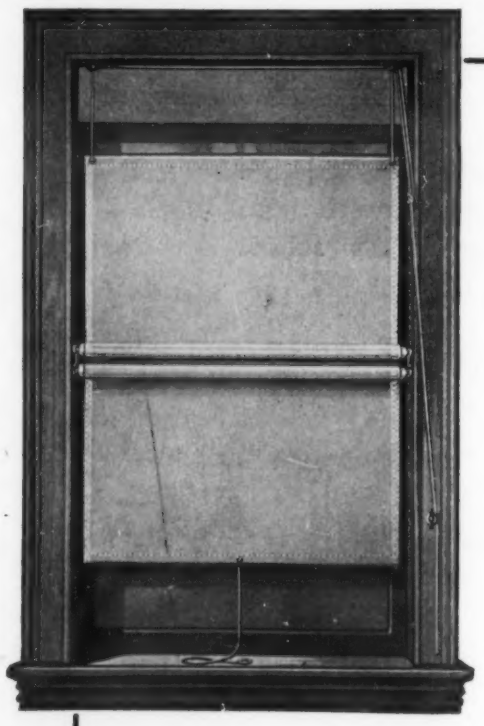

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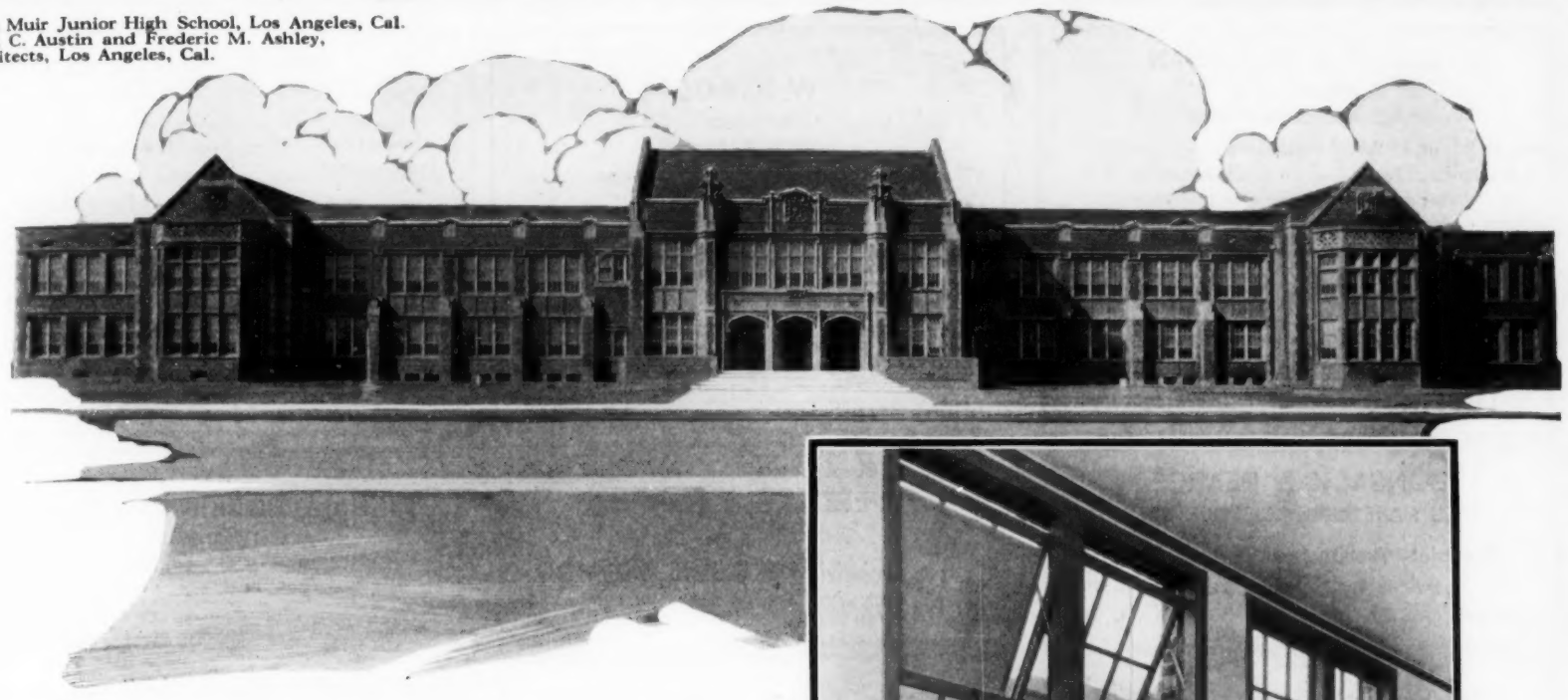

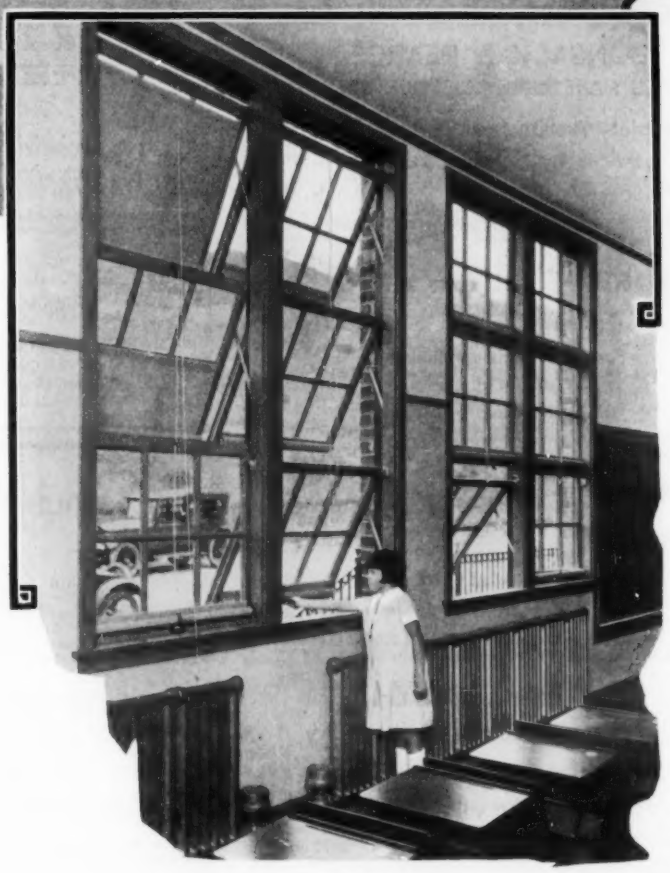

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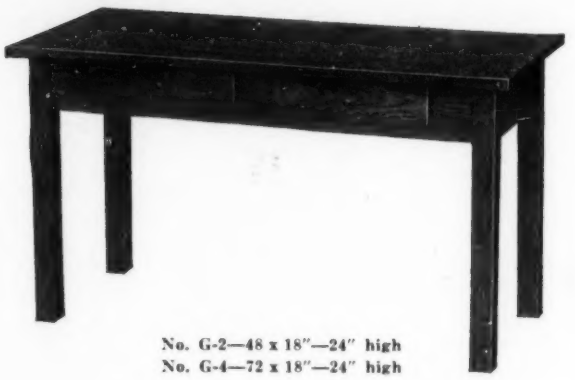

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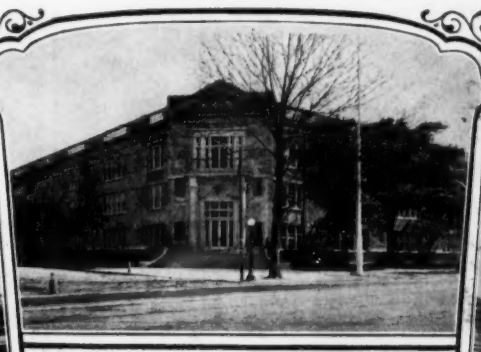

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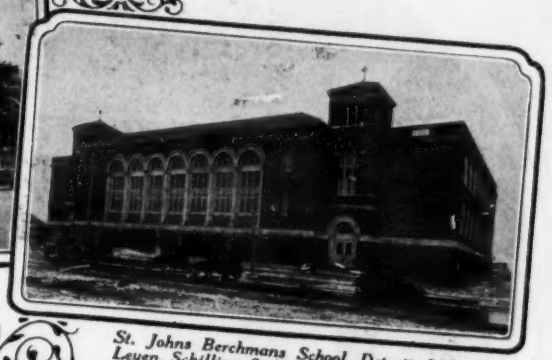

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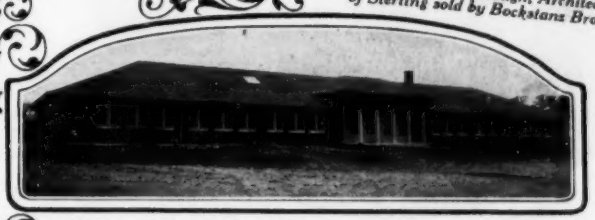

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No. 1434

No. 1434 Tablet Arm Chair is full quartered oak. The seat is reinforced with four corner blocks, the arm has three angle steel supports.

The correct posture form fitting back assures the maximum of comfort for the student. This chair has been designed by seating experts, and no effort has been spared to make it the ideal tablet arm chair.

It is a high grade chair at a low price.

The large demand for Tell City Chairs has not been acquired by mere chance. The substantial quality of the merchandise makes for satisfied users.

When in need of Tablet Arm, Kindergarten, Teachers' or Sunday School Chairs write us for catalog and information.

Our distributors carry stock in all parts of the country for immediate shipment.

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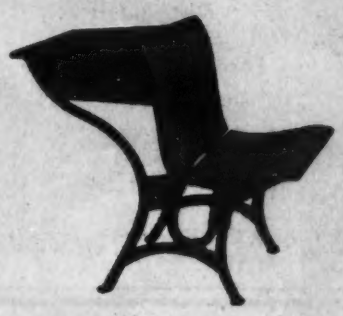
TELL CITY INDIANA
Chair Makers Since 1865

15 Models
53 Distributors
48 Hour Service



Tubular Steel Model No. 101

Triangular shaped steel tubing, electrically welded. Seat hinge noiseless and easily operated.

American Universal No. 134

Movable. Adjustable for height. Lifting Lid. Exceptionally light in weight. Perfectly balanced.

The factory is in Michigan but the Service is local to you

BY no mere accident have "American" desks won such nation-wide appreciation and buyer-preference. For beyond the craftsmanship built into them is a service that stands behind them to make a diversified quality product quickly obtainable.

Distributing stations . . . 53 of them in the United States . . . located to insure 48 hour delivery of your order. And 15 master models, with nearly 200 variations in style, design and finish provide a wide selection.

"American" desks meet every need of the modern schoolroom. "American" service meets such needs almost immediately. And "American" building has maintained for more than a half century, a standard of tested excellence that has never been equaled. Of our tubular steel models alone school officials have purchased more than 4,750,000 . . . a measure of recognition which should be of great significance to you. And just as important is the fact that the resources of our Grand Rapids Factory are placed at your very door.

If these desks cost a little more in the beginning, that is only because they have been built to cost far less in the end

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American Seating Company

General Offices—14 East Jackson Blvd., Chicago

ANDREWS' SANITARY DESKS

They Last a Lifetime

1865—
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NINETEEN TWENTY-SIX marks the Sixty-first year since establishment of the old Andrews Company.

Ideals of the Founders remain intact and still dominate this great manufacturing and national distributing organization in supplying desks and school necessities at reasonable prices.

THE SANITARY DESK
Made in Six Sizes.

FOR SCHOOLS—
LARGE and SMALL

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Our assortment of pupils' desks is varied and complete, and for genuine worth, has the endorsement of School Boards of America.

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OFFICE TABLES DIRECTORS TABLES
TRADE MARK REGISTERED
MUTSCHLER BROTHERS CO. NAPPANEE, IND., U. S. A.

Samson Tables contribute directly to economy in school maintenance and management

For every classroom in your school there is a Samson Table of the exact size, design, material and finish to meet every requirement. Twenty-five years of development have produced this table; it will uphold its reputation under the most strenuous service.

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These construction features are your guarantee of the endurance of every Samson Table.

When buying tables for your schools be sure to specify Samson Tables.

Illustrated Literature sent on request.

MUTSCHLER BROTHERS CO.,
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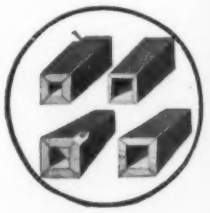
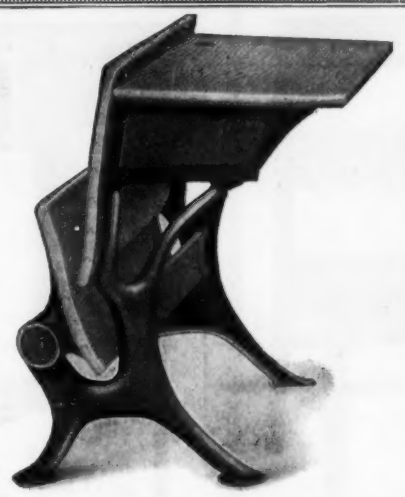
We also manufacture and have a wide distribution of the highest grade of solid oak domestic science tables.



FEATURE
Illustrations shows the old and the new way of building SAMSON table legs for strength.

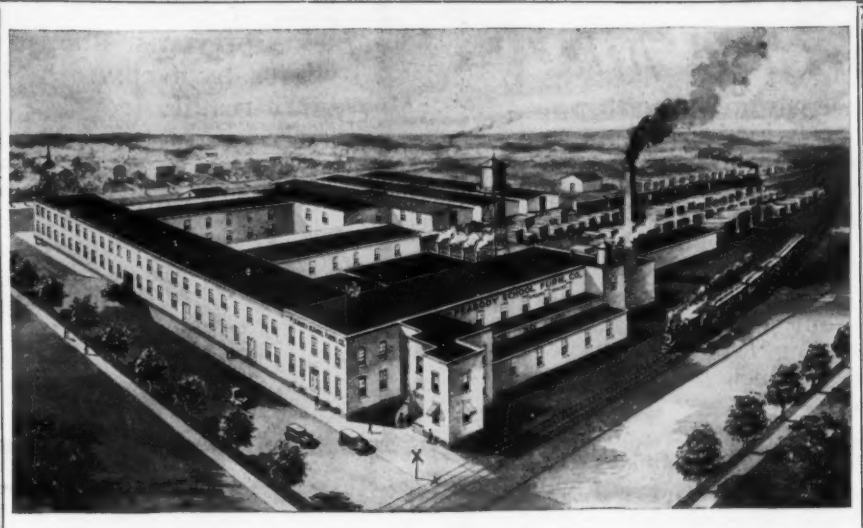
MOVABLE CHAIR DESK.
Three Adjustments.
Rigid, Non-Vibrating Top.



SANITARY SCHOOL DESK.
Noiseless Folding Seat. Semi-Steel Standards.

SANITARY ADJUSTABLE DESK.
Adjustable Seat and Top.
Semi-Steel Standards.

TABLET ARM CHAIR No. 505.



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The home of **Peabody Products** is a modern plant, operated by an efficient industrial family. Twenty years' experience in the manufacture of high grade School Furniture. Every article sold with a guarantee to give complete satisfaction in every respect. "Peabody" service will please you.

School Office and Classroom Furniture

The Peabody School Furniture Co.

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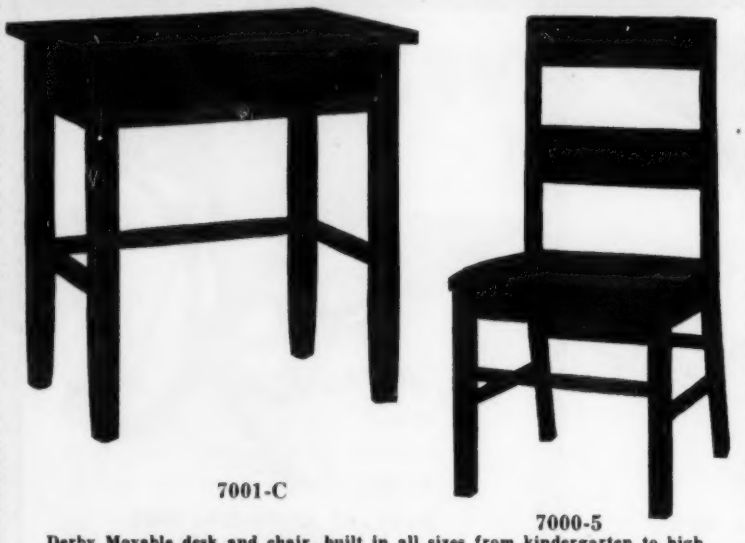
FOLDING CHAIR No. 51.
Form Fitting 5-Ply Veneers.
PATENTED JAN. 18, 1910.

TEACHERS' DESKS—SEVEN PATTERNS.
Built with Solid Oak Tops.

SERVE YOU BEST

NON-TIP FOLDING CHAIR No. 70.
Folds as Flat as a Board.
PATENTED NOV. 12, 1918.



7001-C 7000-5

Derby Movable desk and chair, built in all sizes from kindergarten to high school. Desk built with inclined or flat top, with or without drawer.

Is Correct Posture Worth While?

WE believe that correct posture is worth while. In the many health activities that are a part of every school program the subject of correct posture is emphasized. Since the report of the Boston School House Commission, a quarter century ago, educators have sought to aid and supplement correct posture activities with school desks and chairs that secure correct posture to the seated body. They have met with numerous makeshift arrangements. Less than three years ago a leading orthopedic surgeon failed to find a chair and desk which secured actually correct posture to the sitter.

This fact is not strange. To build a unit which does secure correct posture is a difficult and exacting task. Numerous devices may help one maintain correct posture to a degree. But to fit exactly varying sized bodies, especially the growing bodies of children, requires unusual orthopedic skill and chair making ability.

Mr. Earl Thompson worked out, in theory, a chair which would properly seat and support the body. The Derby chair makers solved the construction problems presented in the making of this chair.

By means of a specially moulded saddle which allows the weight of the body to be carried by those organs designed for the purpose and a properly curved lumbar support which correctly braces the spine, the Thompson-Derby chair does secure correct posture. Leading orthopedists have enthusiastically made known this fact.

The correct posture construction has been adapted to a complete line of school equipment. Determined from conference with numerous educators, the Derby school equipment units meet every ordinary school need. Unusual requirements are satisfied by special units made from consideration of the use for which they are desired.

We shall appreciate the inquiries of educators concerning our school equipment. Catalogs and booklets have been prepared to thoroughly explain the correct posture principles.

The construction features of the Thompson-Derby chair are patented and can not be successfully duplicated.

P. DERBY & CO. INC.

Chairmakers for 80 years

GARDNER, MASS.

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Our New Movable Desk

We wish to emphasize the fact that this is not a movable Chair-Desk, but a DESK and CHAIR that are movable.

Both the desk and chair are adjustable to any height. A turn of a screw renders the book box (or desk) movable to and from the pupil. This prevents stooped shoulders or crooked spines, by keeping the pupil erect. Can be entered readily from the side.

There are several specifications of superiority of this new desk, too numerous to mention here, therefore

Write for illustrated and descriptive folder A-6 which will be gladly sent on request.

E. H. STAFFORD MFG. COMPANY

Manufacturers of Seating for Schools.

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THE SCIENTIFIC STUDY CHAIR

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KINDERGARTEN FURNITURE

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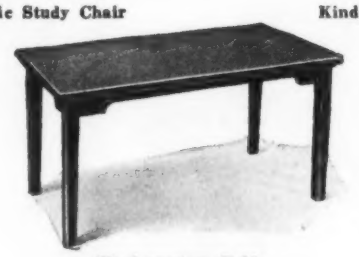
EFFICIENCY AND HEALTH

Scientific Study Chair

Kindergarten Chair

Made in seven heights from 12" to 18"



Made in five heights from 10" to 14"

Kindergarten Table

Made in five heights—
18" - 20" - 22" - 24" - 26"

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INCLUDES

EVERYTHING in modern seating and equipment — stationary and movable desks — pedestal desks — auditorium chairs — folding and assembly chairs — teachers' desks and office furniture.

A TYPE FOR EVERY PURPOSE

A large descriptive catalog of the complete National Line will be sent at your request.

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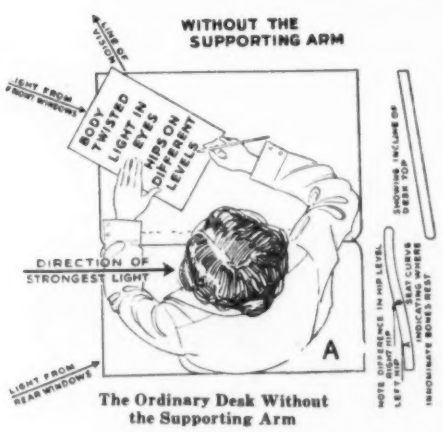
Advantages Your Pupils Will Enjoy

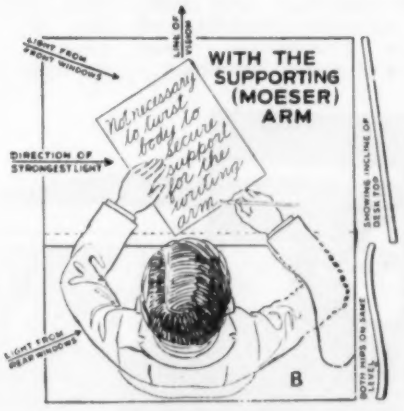

WITHOUT THE SUPPORTING ARM
LINE OF VISION
LIGHT FROM FRONT WINDOWS
BODY TWISTED LIGHT IN EYES HIPS ON DIFFERENT LEVELS
DIRECTION OF STRONGEST LIGHT
LIGHT FROM REAR WINDOWS
A

The Ordinary Desk Without the Supporting Arm

BY EQUIPPING YOUR SCHOOL WITH NATIONAL MOESER ARM DESKS

1. Available writing surface doubled.
2. Pupil's back supported while writing, which means less fatigue and nervous strain.
3. Correct posture insured — protecting eyes from direct and reflected glare.

No. 101 Semi-Steel Desk with the Moeser Arm


LINE OF VISION
LIGHT FROM FRONT WINDOWS
WITH THE SUPPORTING (MOESER) ARM
No necessary to twist body to secure support for the writing arm
DIRECTION OF STRONGEST LIGHT
LIGHT FROM REAR WINDOWS
B

THE National School Equipment Co.

OF PORT WASHINGTON WISCONSIN

Distributors in all principal cities.

THE "ARLO" ADJUSTABLE PEDESTAL DESK

THE "Arlo" Adjustable Pedestal Desk is our latest contribution to modern hygienic school room seating. A beautiful desk, both in design and finish, it is absolutely sanitary—exceedingly well adapted to the varying needs of any class-room and guaranteed to withstand the strenuous requirements of every type of class room service.

The pedestal is made of semi-steel, constructed to give greatest strength at the points of greatest strain. The broad, massive base is cup shaped and when screwed to the floor will never pull loose.

The "Arlo" Adjustable Pedestal Desk will last a lifetime; has steel sides and back and the top is made from maple or birch, finished in Arlo Brown (American Walnut).

Adjustments are simple and easily made. Book box and chair seat are independently adjustable. This is a distinctive feature, and makes it possible to adjust "Arlo" desks to meet the individual requirements of each pupil.

Flexibility of adjustments assures each pupil being properly fitted, insuring correct posture and real comfort.

No. 600
Illustrating Size "A" Desk, Open Box Style.

Made in Three Sizes
A—Large
B—Medium
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Descriptive Literature and Prices on Request

Arlington Seating Company — OFFICE AND FACTORY — Arlington Heights Ill.

The Model Desk for Modern Schools

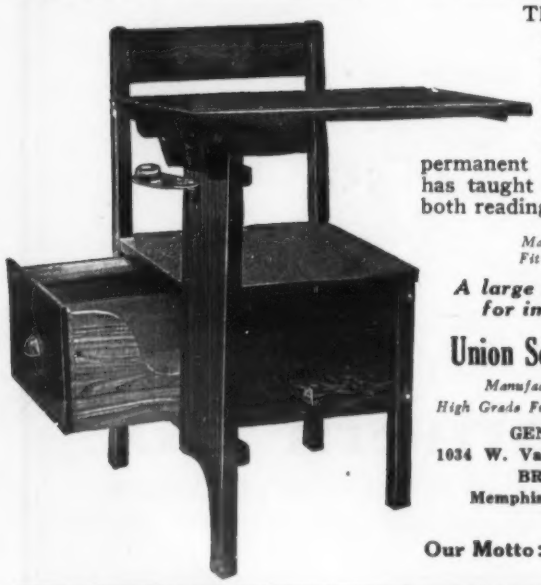
"UNION"

Liftop Movable and Adjustable Chair Desk

A modern design that embraces many practical features which time and experience have proved entirely correct.

"Union" Liftop Movable Study Chairs represent long experience in designing and producing high grade furniture for the schoolroom. All of the non-essentials have been eliminated; simplicity, durability and serviceability characterize these model pieces of school furniture.

The roomy seat and curved back form a restful combination. The plus or minus adjustment permits the writing table to be shifted to or from the pupil to accommodate his size. The lifting top provides easy means of ingress and egress without the usual distortion.



The convenient and commodious drawer is responsive and is equipped with stops which prevent falling out unexpectedly. The tops have that natural, permanent slant which experience has taught is the proper angle for both reading and writing.

Made In Six Sizes To Fit The Different Grades

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Our Motto: ***All School Furnishings***

LET US SEND YOU A SAMPLE WITHOUT OBLIGATION

ROYAL FOLDING

It will prove its worth EASILY BEYOND COMPARISON

Yet COSTS LESS

when appearance, the unusual comfort and general upkeep are reckoned.

ONE ACTION opens or closes. Stacks compactly, does not tip, rests solidly on the floor.

Baked enamel in any desired color.

2000 chairs and stools in stock at all times.

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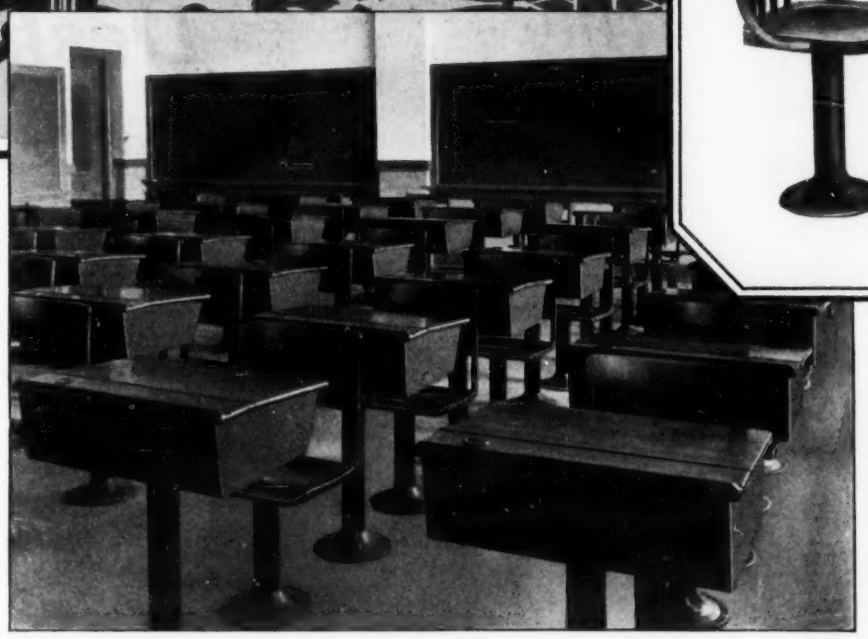
100 · YEARS · OF · MANUFACTURING · EXPERIENCE



A classroom in the B. B. Russell School, Brockton, Mass.

This illustration is of the new H-W Sanitary Pedestal Desk Set, Stationary type with G 516 Chair.

Heywood-Wakefield Seats Add to Student Comfort and Schoolroom Capacity

Nowadays, school capacity is taxed to the utmost. Floor space is valuable, yet student comfort and health must be safeguarded.

The scientific designing of seats to fit the needs of both scholar and school is a matter of experience. Heywood-Wakefield has been building seats for 100 years.

Our school-seating experts are able to give you valuable advice from both engineering and hygienic viewpoints. This consulting advice is free through any H-W Warehouse.

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No. 410, 54" long, 30" wide and 30" high.

No. 409, 42" long, 30" wide and 30" high.

Imperial Teacher's Desks

Imperial Desks with their consistent good quality and low price, combined with their exclusive construction features, faultless design and beautiful finish, are factors which commend them most favorably to the discriminating school buyer.

If your School Board desires desks above the average or has only a limited appropriation available and insist on buying low priced desks, you can meet the demands from the Imperial line.

The Imperial Trade Mark is well and favorably known and is put on every Imperial Product. It is our guarantee to you.

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LITTLE GIANT

ELECTRIC ERASER CLEANER

to Work in Your School

Price $32.50

The Little Giant is a modern hygienic device that should be in every school. Put this accepted aristocrat of blackboard eraser cleaners to work in your school under our guarantee of satisfaction.

THE Little Giant has been tested by continuous use in thousands of schools throughout the country. It has proved to be efficient, in all respects, noiseless, dustless, simple and swift in its operation. It is guaranteed to clean blackboard erasers to your entire satisfaction — or your money will be refunded.

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Silent - Swift - Dustless - Simple - Inexpensive

DUST IS A MENACE TO HEALTH

Dudfield's Dustless All Metal Crayon Trough and Metal Blackboard Trim.

It is an up-to-date improvement that is used each school-day. Very little extra expense over the open wooden troughs. Can be used in old or new schools. Dust tray can be used in wood trough construction.

Have your Architect specify our material.

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Steel Furniture Company seating includes every practical modern type for classroom and auditorium. It is always a step ahead in design and perfection of construction. Each item represents the utmost in value accomplished through standardization and large volume.

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DETROIT MOVABLE DESKS
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The Improved "DETROIT CHAIR-DESKS" (as illustrated) is highly praised by Authorities on Modern School Equipment.

The entire "DETROIT" line consists of High School Single and Double Unit Tables, Tablet Arm Chairs, Kindergarten Tables and Chairs and is worthy of serious consideration.

Detailed information on the complete line will be furnished on request.

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Manual Training Bench No. 25

If you are in need of benches, you will make no mistake in considering this bench. For information regarding our full line of superior manual training benches, domestic science, sewing and drawing tables, vises, laboratory furniture, etc., write to

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ELGIN SCHOOL TABLE

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NO basic improvement has been made in the seating arrangements of our primary grades since the designing of the stationary desk over a half century ago. Immense forward strides have been made in practically every branch of education but in this one respect it has stood still. For years school superintendents and educational authorities have realized the need of a change in the lower grades.

It remained for the RINEHIMERS, master woodworkers for 59 years, to evolve the much-needed improvement. The ELGIN SCHOOL TABLE for first and second grades—the co-operative efforts of experienced educational directors and constructive engineers — is now fast replacing the impractical, uncomfortable stationary desk.

RINEHIMER BROS. MFG CO.,
ELGIN, ILL.
DEPT. OF SCHOOL FURNITURE

Send for Free Booklet Now

These betterments can be better appreciated after reading our booklet "Seating Efficiency." Send for it now. You can then make the necessary changes in your rooms during the summer vacation.

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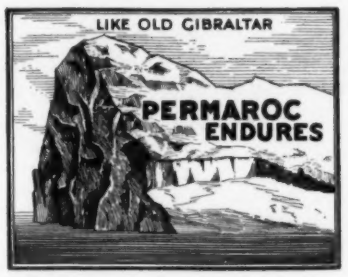
Permanency, Serviceability, and Blackboard Economy are obtained where PERMAROC Blackboards are installed. This fact has been demonstrated in thousands of schools throughout the United States, Canada, Cuba, and Mexico. Millions of feet are in daily use. It has proven its worth in all types of buildings and practically all climatic conditions. PERMAROC is durable, fireproof, moistureproof, comes in eight foot lengths, panels are joined by cement, providing a continuous writing surface, and can be installed for less money than any other permanent blackboard.

If you are planning new buildings or need blackboards for replacement be sure to write for further information concerning PERMAROC.

PERMAROC insures everlasting blackboard satisfaction. It is adapted to all types of buildings and possesses the finest manufactured slate surface known.



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COLUMBIA INDESTRUCTO TABLET ARM CHAIR AT $4.25
WITH PERFORATED SHEET STEEL BOOK SHELF 25c EXTRA

INDESTRUCTO TEACHER'S DESK WITH 2, 4 OR 5 DRAWERS
AT LOWER PRICES THAN ALL OAK

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COLUMBIA INDESTRUCTO
TEACHER'S CHAIR AT $3.50

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COLUMBIA INDESTRUCTO CHAIR DESK

Back slats adjustable; Tilt of top adjustable.

Nos. 1 and 2—$4.95; Nos. 3 and 4—$4.80; Nos. 5 and 6—$4.65.

Dovetailed hardwood drawer $1.50; Swinging flush top ink well 15c. Vertical adjustment for top 50c extra.

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The Columbia made the first steel frame school desk over twenty years ago—others followed—Ten years ago the Columbia made the first steel frame chair desk—others may follow, but it takes time to test out and perfect a new desk.

COLUMBIA SCHOOL SUPPLY CO.
MOORE BROTHERS ~ PROPRIETORS
314-344 WEST 17TH ST. INDIANAPOLIS

In this desk are incorporated the 24 good points of a school desk as established by a committee of over a score of leading educators whose report was set out in full in the American School Board Journal of July, 1924, a reprint of which we shall be pleased to mail you.

For Dependable Blackboard Service

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SOLID BLACK CLEAR THROUGH

The Permanent Blackboard

THE PERMANENT BLACKBOARD

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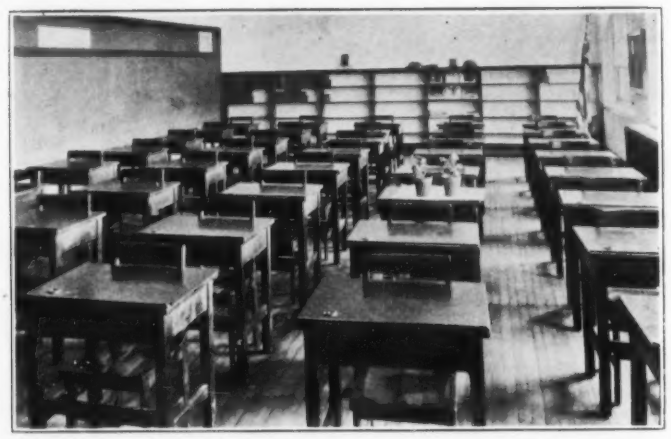

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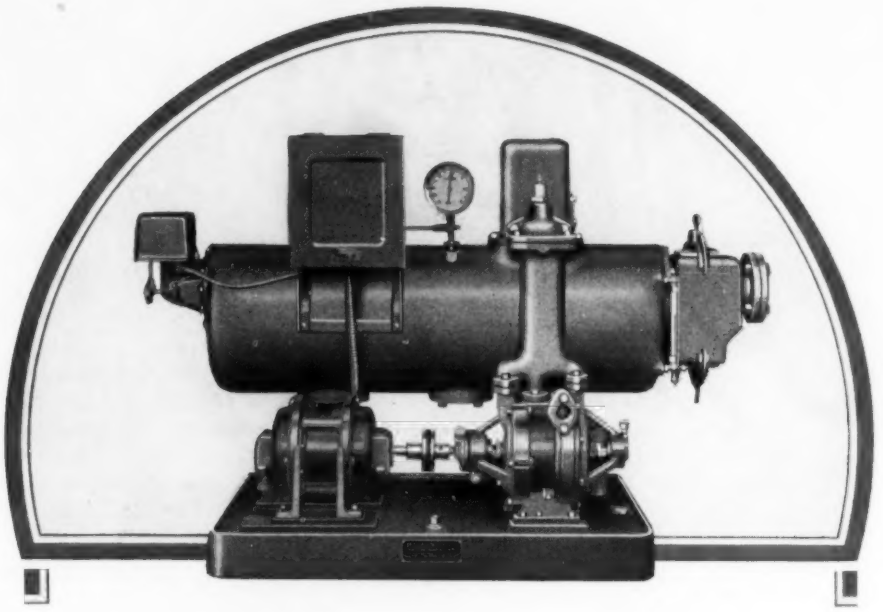

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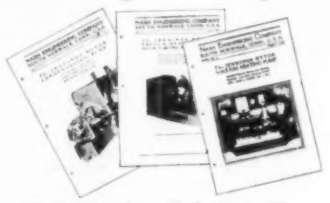

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THE AMERICAN
School Board Journal
A Periodical of School Administration

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Published on the first day of the month by
THE BRUCE PUBLISHING COMPANY
354 Milwaukee St., Milwaukee, Wis.

Eastern Advertising Office:
50 Church St.,
New York, N. Y.

Volume 73 July, 1926 No. 1

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The Peak of the Buying Season

The present issue of the JOURNAL appears at the peak of the season, when school boards are making their heaviest purchases for the school year 1926-27, and are engaged generally in rehabilitating the school plant for the return of the children. The leading articles of the month touch upon important phases of purchasing equipment and supplies, remodeling buildings, summer care of heating plants, refinishing furniture, etc., etc. All of the editorial content has been selected to be of direct help in solving the problems of the season.

The advertising pages, we know, will be as helpful to school boards and their executives, as the reading columns. Practically every school need can be filled by the leading manufacturers and dealers, whose announcements and advertisements appear.

CHANGES OF ADDRESS

Notices of summer and fall changes of address should include the old, as well as the new address.

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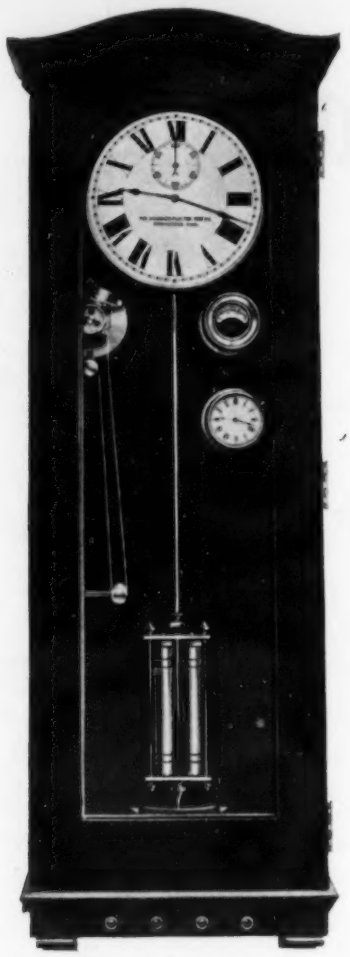

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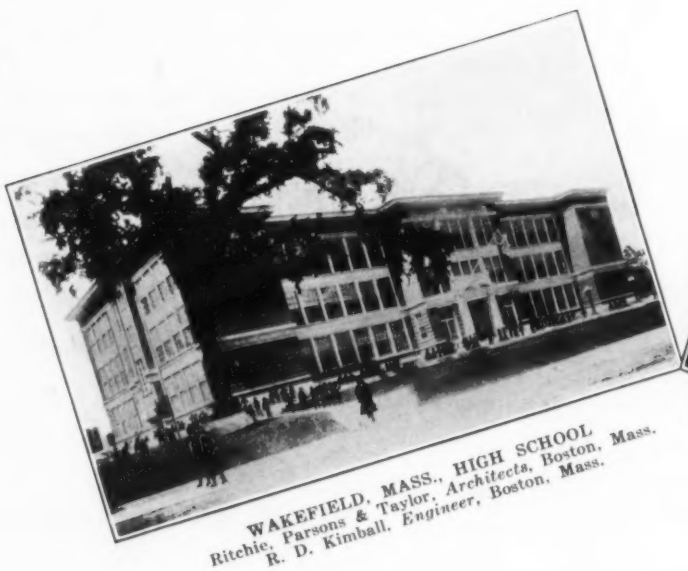

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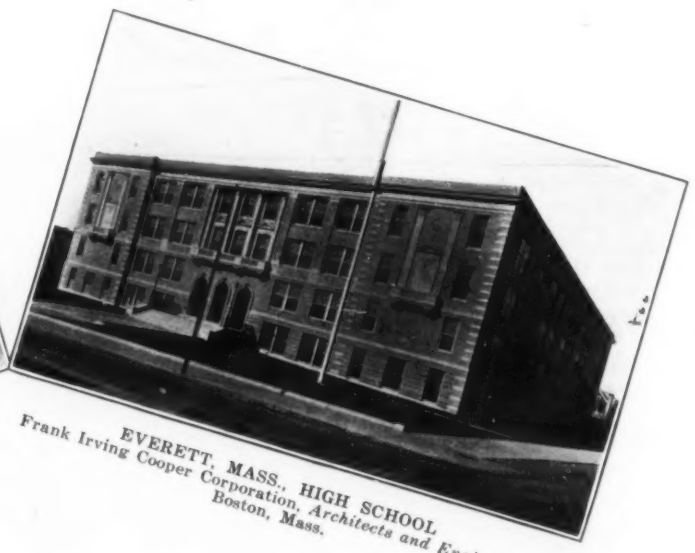

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Efficiency Versus Sentiment.

Economies in Schoolhousing

Study No. 1: Pupil Use of Blackboards in Junior and Senior High Schools

F. W. Hart and L. H. Peterson, Department of Education, University of California

A series of studies and experimental investigations to reduce the cost of housing school children has been undertaken at the University of California. Such investigations were undertaken, not because too much money is expended upon school buildings, but on account of the fact that the amount expended is not made to go far enough in providing adequate accommodations for all the children. Practically all large cities, and in many of the smaller ones for that matter, thousands of children are either on short sessions or housed in shacks, bungalows, or in antiquated, insanitary, and unsafe structures. It is the purpose of these investigations to discover where defensible economies may be practiced in order that the savings effected may be expended in increasing the capacity of the plants or improving the quality of service to be rendered.

The possibilities of such economies and the consequent improvement of existing conditions are surprisingly great. It is a matter of common knowledge that the educational program and instructional methods of our schools are constantly changing, but too frequently these changes are not reflected in the planning of new buildings. A striking example of this is the use made of blackboards under modern methods of teaching in the junior and senior high schools. The blackboard was formerly an indispensable teaching device, but the advent of cheap paper, the school library, reference work, and the project method of instruction have for many school subjects rendered blackboards practically obsolete so far as student use is concerned. This fact, however, has not been taken into account in the planning of new high school buildings. The early practice of covering all available wall space within reach of student or teacher, with blackboard installations costing from a dollar to a dollar and a quarter per square foot, has persisted. The result is that hundreds of thousands of dollars of much needed capital is standing unused on schoolroom walls where tacking space or blank walls would render far greater service, or otherwise improve classroom conditions.

Experimental Evidences

With those responsible for the planning of school buildings tradition is strong, practice persists, and convictions are contagious; only positive proof will prevail. It is to this end that the investigations referred to are being made. Upon the issue of blackboards, data have been assembled showing the actual use made of the blackboards in approximately four hundred instructional rooms in junior and senior high schools in California cities. Records were kept of the actual use made of the blackboards in these rooms over a period of five school days. The largest number of pupils using the blackboard at any time during the five day period in a given classroom was taken as a measure of the peak load expected for that room, and was accepted as a measure of the minimum amount of blackboard space to be provided for the particular subject taught.

The amount of blackboard installed in the rooms was measured, and on the basis of actual use, the excess was computed and the possible saving calculated. The rooms were grouped under two classifications, namely, regular recitation rooms and special rooms. Under regular recitation rooms were tabulated those rooms designed primarily for recitation purposes, and under special rooms were tabulated laboratories, cooking rooms, sewing rooms, art rooms, drawing rooms, and commercial rooms. The distribution of the use of the blackboard space in 294 regular classrooms is shown in Table I.

TABLE I. Maximum Pupil Use of Blackboards in 294 Regular Recitation Rooms in Junior and Senior High Schools

Items Tabulated	Distribution of use of blackboard as measured by the maximum number of pupils at the blackboard at any one time during the week. 0	1-5	6-10	11-15	16-20	21-25	26-29	over 30	Totals
Number of Recitation Rooms	41	58	34	49	53	27	21	11	294
Running feet of blackboard space	1,947	2,898	1,647	2,693	3,010	1,556	1,303	695	15,749
Total number of pupils	0	174	272	637	954	621	588	337	3,583
Average blackboard space per pupil		16.6	6.0	4.2	3.1	2.5	2.2	1.8	
Per cent the No. of rooms in each step is of the total number	13.8	19.6	11.5	16.6	17.9	9.1	7.2	3.7	99.4
Cumulative number of rooms and per cent of total									
(a) With no students	41 rms. 13.8%								
(b) With 5 students or less		99 rms. 33.4%							
(c) With 10 students or less			133 rms. 44.9%						
(d) With 15 students or less				182 rms. 61.5%					
(e) With 20 students or less					235 rms. 79.4%				
(f) With 25 students or less						262 rms. 88.5%			
(g) With 30 students or less							283 rms. 95.7%		

From the above table the following observations are pertinent:

(1) In 41 rooms, approximately fourteen per cent of the total with 1,947 running feet of blackboard, not a single pupil was reported to have used the blackboard during the five-day period. The blackboard installed in these rooms represents an investment of approximately $9,000. A small blackboard on the front wall of these rooms for the use of the teachers would have met all requirements with a saving of approximately $7,000.

(2) In 58 classrooms, approximately 20 per cent of the total with 2,898 running feet of blackboard, from one to five pupils was the maximum number reported as using the blackboard at any one time. The investment in blackboards represents an outlay of approximately $12,600. Twenty running feet of blackboard on the forward end of each of these rooms would have served at a saving of approximately $7,000.

(3) There were 34 classrooms, 11.5 per cent of the total, with 1,647 running feet of blackboard, reporting from six to ten as the maximum number of students using the boards at one time. In this case 20 running feet of blackboard would have served all purposes, and the potential saving may fairly be placed at $4,000.

(4) Combining the steps of eleven to fifteen and sixteen to twenty, there were 102 recitation rooms, 35 per cent of the total, with 5,703 running feet of blackboard that reported from eleven to twenty as the maximum number of students using the boards at any one time. The total blackboard installation represents an investment of approximately $25,000. A total of 38 feet of blackboard on the front and side walls in each of these rooms would be a generous supply, and would result in a net saving of $8,000.

(5) Combining the last three steps in the table there were 59 classrooms, twenty per cent of the total that reported from 21 to 40 pupils using the blackboards at one time. Of this number only eleven rooms or 3.7 per cent reported over 30. The combined blackboard installed in these 59 classrooms was 3,554 running feet, representing an investment of approximately $15,600. Half of these rooms had from 60 to 85 running feet of blackboard in each, and only seventeen had less than 50 feet. It is, therefore, evident that they were supplied with the maximum that could be installed. Accepting the figure of use as reported, these rooms should have had blackboard on all available space on the front, side, and rear walls and no saving in installation could have been effected.

The amount of blackboard installed in a hundred rooms designated as laboratories and "special" instructional rooms (sciences, cooking, sewing, drawing, and commercial classes), and the distribution of "maximum use," are presented in Table II.

Interpreting the table in the same way as in the case of Table I, the following facts are stated:

(1) In 59 of the 100 special rooms no student is reported as having used the blackboard during the week. The investment in blackboard is approximately $6,000. Allowing ten running feet of blackboard in each of these rooms for the teachers' use, a saving of $3,500 might be figured.

(2) In twenty rooms out of the one hundred, from one to five students are reported as using the blackboard at one time. Ten running feet of board in each room would have been enough, and the saving might have been $2,000.

(3) There were fourteen rooms out of the one hundred reporting from six to ten students at the blackboard at one time. Twenty running feet of board would have met all needs, and the possible saving may be placed at $1,500.

(4) Only six rooms out of the one hundred reported, over eleven students were at the blackboard at any one time. These were three in

(Continued on Page 153)

TABLE II. Minimum Pupil Use of Blackboards in 100 Special Rooms in Junior and Senior High Schools

Items Tabulated	Distribution of use of blackboard as measured by the maximum number of pupils at the blackboard at any one time during the week. 0	1-5	6-10	11-15	16-20	21-25	26-29	over 30	Totals
Number of Special Rooms	59	20	14	2	1	2	2	0	100
Running feet of blackboard space	1,401	673	623	43	33	103	107	0	2,983
Total number of pupils	0	60	112	26	18	46	56		318
Average blackboard space per pupil		11.2	5.5	1.6	1.8	2.2	1.9		
Per cent the number of rooms is of the total	59	20	14	2	1	2	2		100
Cumulative number of rooms and per cent of total									
(a) With no students	59 rms. 59%								
(b) With 5 students or less		79 rms. 79%							
(c) With 10 students or less			93 rms. 93%						
(d) With 15 students or less				95 rms. 95%					
(e) With 20 students or less					96 rms 96%				
(f) With 25 students or less						98 rms. 98%			
(g) With 30 students or less							100 rms. 100%		

Efficiency in the Administrative Organization of the School System[1]

Carroll R. Reed, Superintendent of Schools, Bridgeport, Connecticut

Efficiency in any organization is brought about by the elimination of waste,—waste motion, waste time, waste money, and waste energy.

The best insurance against waste is: 1. To have responsibility lodged in one person or in as few persons as possible; 2. Team work by the members of the organization; ability and desire for each man to get the point of view of the other; 3. Economy in controlling school funds and purchasing materials and supplies.

The underlying principle of all public school operation is, that schools exist in order that boys and girls may be educated. Educational results are fundamentally important, in fact theoretically nothing else is important.

As a superintendent of schools naturally I agree with the college professors and research men who state that the superintendent of schools should be the head of the school system and that all business and financial matters should be subordinate to the educational problems. While we may agree with this principle, there is need for common sense in the interpretation of it. The office of superintendent of schools in a large city has become an exceedingly complex proposition; in fact, if the superintendent personally supervised all of the activities which are outlined for him, it would be an impossible job for one man.

Rules for the Superintendent

The following list of duties from the Rules of the Bridgeport Board of Education is a sample of what the superintendent of schools is called upon to do.

1. The superintendent shall be present at all meetings of the board and shall have a right to speak on any subject.
2. The superintendent shall be the educational and executive head of the school system.
3. He shall formulate for the consideration and action of the board policies, plans and general rules for procedure.
4. He shall put into effect all policies and plans approved by the board.
5. He shall formulate all necessary directions for the guidance of teachers and other employees in accordance with the rules of the board.
6. He shall be responsible for the control of all employees in accordance with the rules of the board.
7. He shall visit each school as often as in his judgment it is desirable.
8. He shall give the board information relating to departments and make reports to the board containing information relating to the schools and suggestions for their improvement.
9. He shall make an annual written report to the board on the condition of the schools.
10. He shall be responsible for procuring for the schools, teachers and other employees with the best qualifications.
11. He shall make assignments and transfers as the interests of the service may require.
12. He shall establish a list of approved substitutes and fix their daily salaries while in actual service.
13. He shall report to the board the case of any employee whose service is unsatisfactory.
14. He shall hold meetings of teachers and other employees for discussion of matters concerning the conduct and welfare of the schools.
15. He shall recommend to the board all textbooks and courses of study required for the best conduct of the schools.
16. He shall have general supervision and control of the admission of pupils to schools.
17. He shall have supervision and control of the classification and promotion of pupils.
18. He shall hold office hours for the convenience of the public.
19. He shall submit to the board salary schedules covering different types and grades of service required in the schools.
20. He shall with the business manager make up annually the itemized budget for the following year.
21. He shall sound the no-school signal when the weather is so inclement as to imperil the health of the pupils.
22. He shall keep himself informed by visiting school systems of other cities in order to enlighten the board on progressive movements in education.
23. He shall determine boundaries of school districts.

And besides these detailed duties he must be able to work effectively with the members of the board of education by consistent cooperation. He must listen courteously and consider suggestions from teachers, parents and the general public. He must be a publicity agent to inform the public concerning the policies and achievements of the public school system. He must study the community, know what his particular problems are and how to meet the educational needs of his particular city.

Rules for the Business Manager

The following are the duties of the Business Manager in Bridgeport as a typical American city:

1. He shall have charge of stenographers, clerks and other employees in the board offices.
2. He shall keep the minutes of the board and a calendar of all matters referred to committees.
3. He shall send a copy of the minutes of each meeting to every member of the board.
4. He shall issue written notices of the meetings.
5. He shall receive and reply to all communications to the board.
6. He shall receive tuition fees, money from the sale of books and other school property or other sources and deposit such money with the city treasurer.
7. He shall audit and control all cash collections received by agents of the board.
8. He shall keep the revenue and expense, asset and liability accounts, budget, allotment ledger, purchase orders, vouchers and warrants, expenditure distribution by schools, payroll rosters, registers of leases, rents, personal bonds, and building construction contracts.
9. He shall draw all warrants in payment of claims against the board.
10. He shall submit to the board a monthly report of receipts, disbursements and budget balances.
11. He shall submit an annual financial report.
12. He shall act as custodian of all contracts, documents, title papers and other papers belonging to the board and all insurance.
13. He shall keep an accurate report of the purchase and distribution of all supplies, have supervision of supplies.
14. He shall annually submit an inventory of all school supplies and estimated needs for the ensuing year.
15. He shall prepare estimates of supplies and submit the same to public bids.
16. With the superintendent of schools he shall make up the itemized budget annually covering all expenditures for the following year.
17. He shall have charge of the care, repair and upkeep of school buildings and grounds.
18. He shall have supervision over the mechanics, engineers, firemen, janitors, cleaners and other employees in the building department.
19. He shall have the supervision of all contracts to see that what is called for is obtained.

The activities which we have enumerated are further complicated by the fact that a school system is public business, in some phase of which every citizen has an interest and concerning which unfortunately many citizens feel competent to advise and to criticize regardless of their meagre understanding of the facts or the problems which are involved. Much of this advice and criticism springs from a real desire to improve conditions in the schools, but on the other hand a great deal of it is from those people who seek political power or personal gain.

Inasmuch as most people feel that they know more about school buildings, janitors, the purchase of school sites and other problems of finance than they do about the quality of teaching or the objectives of the course of study, the superintendent of schools who assumes complete responsibility for all of these duties is very likely to find the non-educational phases of the problem taking more of his time than the larger and more important problems of educational policy. It is supremely important that the superintendent of schools should have time to think in order that his advice concerning school policy may be based upon sufficient consideration of all the factors entering into the problem. He should have time for professional reading, for visiting other school systems, for keeping himself informed concerning significant educational experiments. If he is to have any time at all for these important matters he must be relieved of responsibility for those problems which are related to the operation, the maintenance, and the accounting procedure so necessary in a business as large as a modern city school system.

The Board's Duties

In most large cities the board of education is now a legislative body and has delegated its administrative functions to paid executives. The last functions to be so delegated were those pertaining to the maintenance and operation of the school plant, the purchase of equipment and supplies and the problems of finance. In many cities these duties are still assumed by committees of the board although the best modern school practice is eliminating the standing committees. The board of education should meet as a committee of the whole for the discussion of all important matters whether concerning instruction or business activities.

The business and financial functions of the board of education are usually very closely related to educational results but they are so varied and so complex that in most cities of 50,000 population or more the board of education demands and needs a business executive reporting directly to the board and carrying a large measure of responsibility for the problems in his particular field.

The problem which arises from divided responsibility and a tendency toward dual control of the schools is due in part to the history of city school systems. In the State of Connecticut the local school committee in the past had control of only building matters and financial affairs, the supervision of instruction being in the hands of a separate board which was called the school visitors. In Ohio the present law empowers the board of education to employ a director of schools who shall have charge of all business and financial matters and shall be responsible directly to the board, while the superintendent of schools is responsible for matters which are primarily educational.

Among the late contributions which Columbia University has made to education is a study entitled "The Business Administration of City School Systems" by Harry P. Smith. This book discusses the following problem: "Shall the administration of a city school sys-

[1]Read before the Annual Convention of the National Association of School Business Officials, Toronto, Canada, May 18, 1926.

tem be unified in one chief executive officer or shall there be two coordinate administrative departments separating the administration of business activities from that of instruction?" The book is based upon a study of 25 cities in New York and New Jersey and school cost data from 116 cities in the United States reported by the Research Department of the N. E. A. The author divides the cities into two types: unit type and multiple type on the basis of organization.

Dr. Smith's Findings

Dr. Smith reports a slight superiority for the unit type cities in budgetary procedure, financial reporting, the purchase of supplies, and the insuring of school property. In accounting procedure, storage and distribution of supplies, and the purchase of fuel supply he reports distinctly superior practice in cities of the multiple type of control. As a result of his study he reports that neither type of city shows a marked superiority over the other type in the school business practices which were investigated. In the matter of school costs considering the expenses in 97 cities he found that general control, business control, instructional service, fixed charges, and auxiliary agencies were lower for cities of the unit type while educational control operation and maintenance were lower for the multiple type cities. He agrees that, so far as these statistical studies go, the type of administrative organization does not materially affect the cost of education in larger cities.

In regard to administrative relationships he makes a study based on statements from various school officials in several cities and finally concludes that the city with dual control is weak in so far as fundamental organization goes because it permits points of view other than educational to determine policies and dominate activities. He admits, however, that there are many cities of the multiple type of control where harmonious relationships exist in school administration, but states that this is due primarily to the personnel in the executive positions rather than to the administrative set-up.

Unfortunately nobody has ever worked out a correlation between the way things ought to happen in school management and the way they actually do happen. We can never be sure that what ought to occur under a given set of conditions will actually come to pass.

The unit type of control in the organization of private affairs is most efficient. At present there is a tendency toward the same type of organization in public affairs. As evidence of this we have the growth of the city manager form of municipal government. There are a few conspicuous examples of the success of this experiment. On the other hand there are many examples of the failure of one man control in city government.

While it is probably true that an absolute monarchy or a benevolent despotism is more efficient than a democracy and while some of our large cities are conspicuous examples of the inefficiency of the rule of the people, we must remember that in the United States of America we have dedicated ourselves to the popular form of government and efficiency cannot progress any farther than the will of the people dictates.

The Superintendent's Leadership

Of course in school systems if we assume that the superintendent of schools is well trained for his job and has sufficient experience with school problems the chances are more favorable to the success of the unit type of control. The difficulties in school administration which arise from division of administrative responsibility are very largely due to the lack of an educational point of view in meeting school problems. This is due very largely to the failure of the superintendent of schools to keep the interest of board members and associates upon the real objective of public education, namely the educational interests of boys and girls. The superintendent of schools must lead in school affairs by a greater knowledge of school problems, courtesy and tact in handling people and not by rule and regulation.

The difficulties which arise between the superintendent of schools and the business manager or director of schools are likely to arise between the superintendent of schools and school principals or assistant superintendents. In fact there are probably just as many examples of friction in the school machinery in one place as in the other. Such difficulties can seldom be remedied by charts showing the ideal administrative organization or by rules designed to keep people in their proper place. They are essentially problems in human relationships which can only be solved by considering the strength and the weakness of the different individuals involved. Any organization which contains individuals who are not willing to work for the good of the team but who conduct their affairs on a personal plane and make every move for their own personal aggrandizement is bound to have administrative difficulties and irritations.

The Economy Element

Another factor which we must consider in estimating the efficiency of school organization is the economy with which school board funds are handled. The first principle and the basis of all efficient school organization is careful and scientific budget procedure. A budget must be made in detail and having been approved by the board it must be a guide for the expenditures for any given year. No expenditures should be made which are not included in the budget or which over-run the budget in any department except in cases of extreme emergency. School accounting should be the basis of better budget making. All educational supplies should be bought from the lowest bidder bidding upon definite specifications as to quality and quantity and if possible there should be but one order a year, everything possible being included. There is a question as to how much school accounting machinery is necessary to set up in the business office of a school system. There is almost no limit to the amount of bookkeeping which may be carried on. It is of course true that certain financial facts are necessary but no school system is justified in spending money for a clerical force to gather financial facts which are not usable in improving the quality of the educational results.

In the year 1923 the N. E. A. issued a booklet on city school expenditures making a study of 43 cities. The median cost for general control in the 43 cities was $2.35 per pupil divided as follows:

$0.97 per pupil for business administration;
$1.38 per pupil for educational administration.

It is difficult to set standards for this item of expense on account of the differing conditions in various cities. It would appear, however, from the actual facts for the year ending 1923 that the expense for general control in any city ought not to run over $3.50 per pupil and that the expense of the business department should not be over $1.50 per pupil. Wherever this item of expense is over $1.50 per pupil, a careful study of salaries and office personnel should be made. It is also desirable to check up upon the office practice and determine whether all of the financial facts which are kept are really necessary.

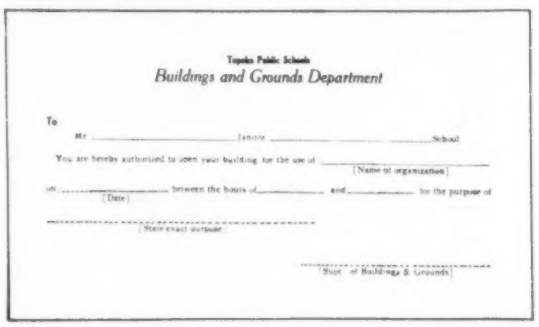
A school system is a money-spending rather than a money-making organization. The products of the system are not easy to measure and incapable of standardization. The benefits are often intangible and long delayed. We school people are dealing in futures. The responsibility which is common to all of us is to see that the money is spent wisely and that the largest returns come to the community in educational results.

School Building Maintenance

Part V—Accounting

H. E. Ramsey, Detroit

In case a B-order has been written which did not include some department which later had work to do, the foremen are authorized to write an interdepartment order to the department concerned. For example, an alteration job in which a partition is to be removed, may show the need for an electrician to change some wiring which was not evident at the start of the job. In this case the interdepartment order simply gives the electrical department the news of the job and the job number, without bothering the main office about it. If the office questions the turning in of time on an order not written to that department, the foreman has something to show for it. A live superintendent of buildings should and will generally know of the matter and will understand the situation. By the way, the superintendent of buildings is the one to write the B-orders. That is, in pencil on a piece of scratch paper, he describes the order and assigns the departments. The office clerk dates and numbers it and passes it on to the men. It will be noted that the interdepartment form is blank in the center, to permit the drawing of sketches and diagrams.



Topeka Public Schools
Buildings and Grounds Department

To
Mr. _____ Janitor _____ School

You are hereby authorized to open your building for the use of _____ [Name of organization]

on _____ [Date] between the hours of _____ and _____ for the purpose of

_____ [State exact purpose]

_____ [Supt. of Buildings & Grounds]

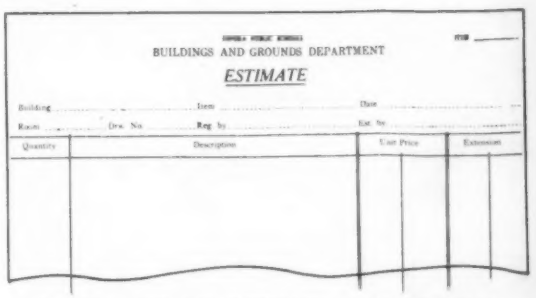
Time Card

We hereby certify that we have put in the following time in connection with activity stated on reverse side.

Name	Classification	Hours	Rate	Extension

Remarks:

FORM K. (FRONT, ABOVE) ORDER TO JANITOR TO OPEN BUILDING. (BACK, BELOW) TIME RECORD OF JANITOR AND ENGINEER.



_____ PUBLIC SCHOOLS _____ ITEM _____

BUILDINGS AND GROUNDS DEPARTMENT

ESTIMATE

Building _____ Item _____ Date _____

Room _____ Drw. No. _____ Req. by _____ Est. by _____

Quantity	Description	Unit Price	Extension

FORM L. REPAIR ESTIMATE. THE ORIGINAL BLANK MEASURES 8" x 11".

In connection with school activities outside of school hours, the writer has always maintained

(Concluded on Page 164)

Seating Arrangements in the Classroom

Henry Eastman Bennett, Ph.D.

Window light from the left side only, even though the area is equal to the prescribed twenty to twenty-five per cent of the floor space, has not solved the problem of classroom lighting. This architectural solution assumes an optical average of the class, which in common with most pedagogical averages is a purely theoretical abstraction, instead of the forty pairs of real eyes distributed about the room. When we consider each pair of eyes in turn, we find that very few have the light "coming over the left shoulder;" many have it shining into them from in front, and the intensity of it may vary from deficient to excessive in the same room at the same time. Proper shades, even if faithfully and intelligently manipulated (which is rare indeed), relieve excessive illumination, but cannot meet the "individual differences" due to position in the room, to say nothing of those arising from visual defects.

The Lighting Problem

The first principle of visual efficiency is that no light must enter the eyes stronger than that received from the object at which one is looking. The contraction of the iris and the sensitivity of the retina are adjusted to the strongest light within the range of vision, and the visibility of other objects is directly reduced thereby. The effect is identically the same as attempting to photograph a room by natural light with the windows in the field of the camera. It is easily demonstrated by reading fine print first with the face toward a window and then by turning so that the light comes over the shoulder. The visual peril of having light shining into the faces of pupils has long been recognized in the prohibition of front light in building laws, codes, and practices. But so long as the light source is well within the range of vision, it is not materially different whether it is squarely in front or slightly to one side. The latter is precisely the condition in which pupils facing forward in the left-rear of the standard classroom are working. The range of vision within which the retina is affected by direct light extends to eighty or ninety degrees each side of the direction in which one is looking. For a majority of the pupils facing directly forward in a classroom a considerable proportion of the window area lies within ten to sixty degrees of the line of vision. Any such direct light is necessarily stronger than that which is reflected from the book, and hence is properly to be regarded as *glare*.

The intensity of the glare varies enormously with the position of the pupil in the room, the weather conditions, the environment of the building, the time of day, and the character and manipulation of the shades, but whatever the other factors it is inevitable that if the illumination is adequate for the pupils in the right-front of the room there is serious glare in the faces of those in the left-rear, so long as all are facing in the same direction. Pupils cannot have individual windows, and it is probable that the standard classroom represents the nearest approximation to the best window lighting possible to achitectural plans, without considering here the complex and debatable problem of overhead lighting. The solution of the difficulty must be found in the relation of the pupils to the windows.

Economy and Single Seating

Next in importance to lighting, in the consideration of classroom arrangement, is the problem of economy of floor space. Not merely the financial economy, which is usually a limiting condition rather than a theory to be faced, but also the pedagogical and administrative necessities, demand that classes of thirty to forty pupils and occasionally more be suitably seated within the limits of a standard classroom with space for recitational and class activities beside. Deplore overcrowding as we may, the most economical use of space is a perfectly legitimate and an ever present problem.

Numerous sound reasons of mental, moral, and physical hygiene and modern sanitary requirements, have committed American schools to the ideal of individualized seating. It is unnecessary to argue that, aside from the necessity of adapting seat and desk sizes to the requirements of individuals, the annoyances, distractions, disciplinary complications, and physical contacts incident to multiple seating are antagonistic to the high ideals of modern schools. Complete individualization must be harmonized with other demands.

Adaptation to Instruction

Flexibility is also requisite to the demands of modern methods of instruction. It is important that this be not confused with mere looseness which is as likely to defeat effective flexibility as to attain it. The mere fact that pupils might be grouped in any manner does not insure that they will be grouped in any way that is desirable. There are great educational possibilities in the intelligent use of movable seating equipment, which it is not the purpose of this article to discuss, but it should be said that there are more possibilities for its misuse and it must be confessed that at present the effective moving of seats in the classroom is rare and the moving which is done is as often detrimental as advantageous. This is not to be regarded as an objection to movable equipment, which the writer most heartily advocates, but as a protest against aimless and ill-considered moving of seats. The present article is not dealing with the moving of seats but with certain arrangements of the room as a whole and which may be either permanent or temporary. Movable seating has the advantage that it may be used in any of these arrangements and in many modifications of them.

Successful grouping must be esentially flexible and adapted to all the constantly changing exigencies of instruction. The group most commonly functioning in a class is the group of the whole, and any arrangement which is ill adapted to the working of the entire class as a unit has an insuperable disadvantage. Next in frequency are the large recitation groups consisting of a fourth to half or more of the class.

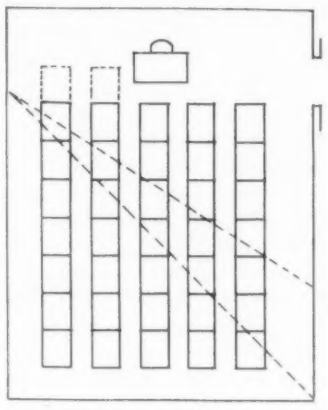


FIGURE 1

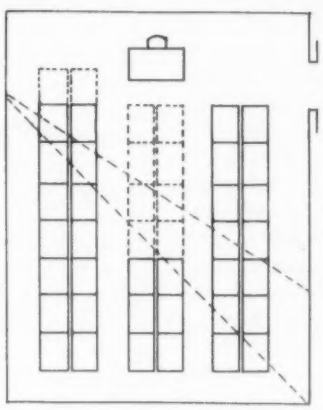


FIGURE 2

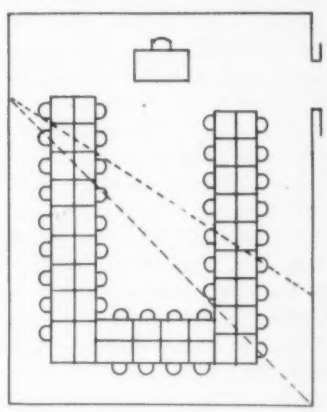


FIGURE 3

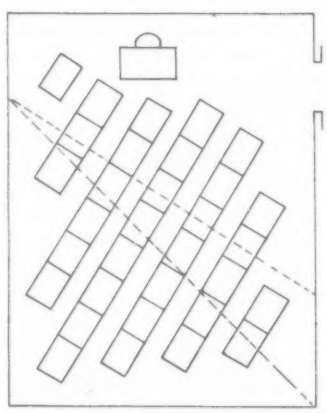


FIGURE 4

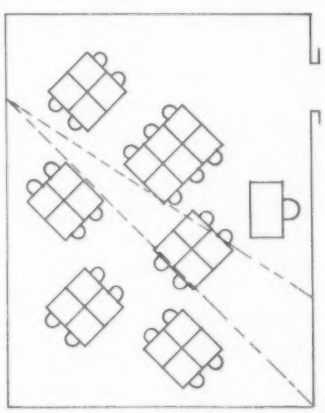


FIGURE 5

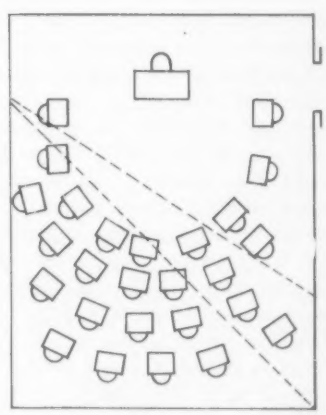


FIGURE 6

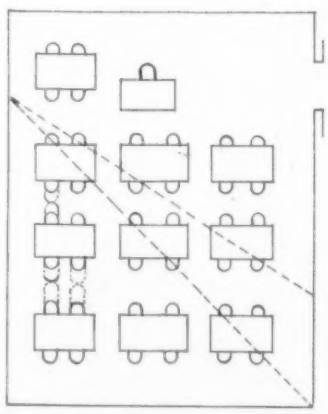


FIGURE 7

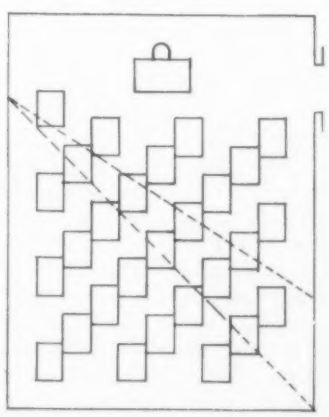


FIGURE 8

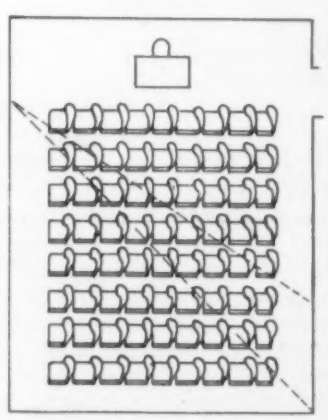


FIGURE 9

TYPICAL AND POSSIBLE ARRANGEMENTS OF SEATING FOR CLASSROOMS.

Then for study purposes there may be constantly changing groups of from two to five or six. Larger groups than this cannot ordinarily work together without interfering with the remainder of the class. In fact, except in the construction activities of the kindergarten and first grade, cooperative study groups are more theoretically than practically effective. Study is essentially a matter of individual concentration, and socialized activity is normally a matter of recitation or large-group instruction. Seating which divides a class into permanent small groups is difficult to defend on any sound theory or successful practice. Temporary grouping is wholly a problem of effective use of movable seating and not within the scope of this article.

With the foregoing principles in mind we may examine critically the several typical classroom arrangements indicated by the accompanying diagrams.

The Traditional Plan

Figure 1 shows the traditional straight line arrangement adapted to any type of individual seats and desks, stationary or movable. The figures are all drawn to scale and represent a standard classroom, 22′ by 28′ and provide a space of 24″ by 33″ for each seat and desk with aisles of about thirty inches along the left and rear walls and eighteen inches between rows of seats. The space at right and front varies with the arrangement. The floor space allowed is that which is required for most desks of the largest or No. 1 size. Smaller desks and varying dimensions of the room will necessarily change the number of desks or number of rows which can be accommodated. Windows are assumed to be massed along the left wall, beginning six feet from the front. The traditional arrangement shown in Figure 1 is rigid and formal. There is no suggestion of class unity, nor can the row be regarded as a unit since one pupil sits directly behind and close to another thus obscuring his vision of the teacher and front of the room facing the back of one neighbor and presenting his own back squarely to the other. It will be observed that fifty per cent of the class have the full glare of the windows within 45° or less of the direction in which they are facing. Ten or fifteen per cent more have a less direct but none the less actual glare to contend with.

Figure 2 shows the individual seats arranged in double rows, which largely destroys their individual character and approximates double seating. If the entire space is utilized, as indicated by dotted lines, it provides the maximum seating capacity and is used only as a means of overcrowding the room. By omitting the seats in the center of the room, it is a hollow-square plan with all pupils facing forward and central space for class activities. Various approximations of the plan are frequently found where movable seats are used, though there is no reason why fixed seats could not be arranged on the same plan if it were desirable. The lighting, it will be seen, is no different from that of Figure 1 except that a larger proportion of pupils are in the area of serious glare.

The Hollow Square

Figure 3 represents a more common type of "hollow square" arrangement, used with movable desks or tables with loose chairs. It is defended on the ground of informality, sociable unity of the whole class and large available space for class activities. It is a vivid example of what may result from ill considered efforts of the kind. Every advantage of individualized seating has been sacrificed. Since a uniform height of desk or table tops is usually involved, size adjustments are ignored. So long as pupils face in opposite directions, as here, no whole group unity or solidarity is possible. There

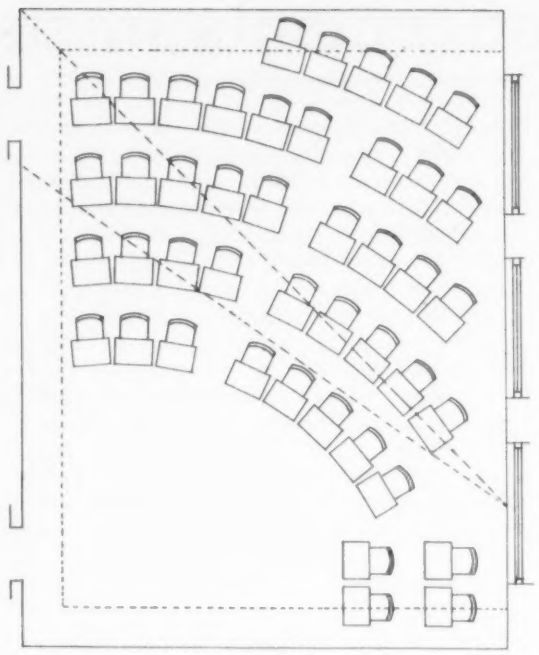


FIGURE 10
THE AUTHOR'S SUGGESTION FOR SEATING.

is no more true socialization in two pupils facing each other across a table than in one facing the back of another, and there are many positive objections. To face the teacher or function as a class, nearly all must turn away from their desks, and in facing forward they sit more closely and directly behind each other than in any other arrangement. Worst of all, perhaps, is the lighting situation. Not a single pupil but has an inexcusably bad light. Nearly half face directly toward the windows, as many more are working in the shadow of their heads and bodies, the few facing to the rear have the shadows of arm and hand on the paper as they write, and the others face forward in the area of worst glare. While this situation seems to be as bad as possible, various approximations to it are not uncommon where the type of furniture permits and the zeal for "informality" prevails.

Figure 4 indicates a rarely used arrangement which is probably unobjectionable except that it is not economical of floor space and defies our innate hostility to having things askew. The relation of every pupil to the light is practically ideal, insuring a maximum of illumination and complete freedom from glare. Aisles are directed toward the door, providing the minimum of travel for each pupil entering or leaving the room. All pupils face the most used blackboards about the right-front of the room and can easily face all that are in general use without turning in their seats. It would be a simple matter for any class with movable desks to experiment with this arrangement, though it is equally adaptable for any fixed equipment if found satisfactory.

Two Further Objectionable Plans

Figure 5 is representative of numerous informal arrangements of movable equipment, either movable desks or tables and loose chairs, resorted to as a means of getting away from the rigidity and formality of straight lines. The precise position of the groups and the number in each is subject to innumerable variations. In general these informal arrangements, in the hands of inspiring teachers, suggest to the visitor a happy relief from the harsher rigidity of most rooms. A careful analysis, however, soon discloses the violation of the most fundamental principles of lighting, a grouping which is purely accidental and serves no definite purpose and which must be abandoned whenever instructional activities begin; usually no regard whatever for appropriate sizes of furniture, adjustments, spacing or other relations of seating to hygienic posture; and a situation which would be ruinous to discipline if applied under ordinary class conditions and with average teaching skill. The extravagant use of floor space insures that such arrangements prevail only where classes are small and that usually means where superior teaching ability and other favorable conditions have eliminated the problem of discipline.

Figure 6 represents the general idea of an informal semi-circular arrangement of pupils' desks with the teacher or an open area for dramatic or other activities in the center. Such formations do not fit well into standard classroom limits; hence they are usually temporary and details are left to the discretion of pupils who merely "gather round" as best they can. Occasionally in large rooms of more favorable dimensions, some such plan is deliberately adopted as more or less permanent. It undoubtedly attains the ideal of informality and of a unitary focus of the class; it is favorable for socialized activities, but not favorable for disciplinary control. It lacks convenient passage ways favorable for orderly passage of classes and pupils, and these can be provided only at a prohibitive cost of floor space, which is extravagant enough without them. Lighting is quite favorable for all pupils in the left side of the room but all those on the right side are more or less directly facing the windows.

The Use of Tables

Figure 7 illustrates the use of large tables at which pupils sit on opposite sides. Occasionally still larger tables are used with three or four pupils on a side and perhaps one at each end. Such variations from the plan shown involve worse lighting conditions for the pupils at the ends of the tables and aggravated evils of multiple seating for those at the sides. The arrangement contemplates the permanent division of the class into groups of four (or as many as a table accommodates) and is as inconvenient as seating can make it for grouping of any other sort, particularly for the work of the class as a whole. It is antagonistic to socializing the work except for these fixed groups, and is especially unfavorable for individual concentration. Half of the pupils have right side lighting which keeps the shadow of the hand playing over the work while writing, and all have the conditions of glare incident to straight line arrangements. Though it does not so appear in the plan, this arrangement is either extravagant of floor space or else conducive to confusion, since to enter or leave one's place he must slide his chair back a foot or more from the table and in so doing chairs bump into each other and, except under most favorable conditions of discipline, cause no little noise and obstruction of passages. If books and supplies are kept in drawers, chairs must be pushed back still farther whenever the drawers are opened, and if not, storage must be provided on the table top, which consumes the working space and is untidy, unsightly, insanitary and insecure. Such plans, in the main, ignore all size and spacing requirements favorable to good posture.

Also Unsatisfactory

Figure 8 was suggested by Mr. C. A. Anderson's article in the SCHOOL BOARD JOURNAL for January, 1925, and credited by him to Mr. W. G. Carr of Glendale, Calif. Drawn to the same scale as Figure 1, it is seen that there is a loss of twenty per cent in the number of seatings, although the net width of the aisles is but twelve inches instead of eighteen. Even this width of aisle allows for nine inches overlap of each seat directly against the right end of the desk next it, which prevents entering or leaving the seat on one side and tends to make the neighbor's desk an elbow rest or back to encourage lounging. Lighting conditions are identical with those of the straight line arrangement except that a slightly large propor-

(Continued on Page 166)

Single, Continuous, or Double Session for High Schools—Which?[1]

F. D. Boynton, Ithaca, N. Y.

Three types of school day for high schools have been and are being tried—the single, continuous, and double session. To ascertain the present practice, what is actually being done this present semester, a questionnaire was prepared and sent to 95 city superintendents in eight states. The answers to this questionnaire have been summarized. This summary is in addition to a similar one made by a Michigan superintendent covering fourteen states, and is ready for distribution among school administrators.

The high school curriculum has been evolved in response to increasing demands for more education until today it is the fullest response yet given to democracy's demand for democracy in education. Within the lifetime of your speaker, public high schools have multiplied from a score or more to 15,000 and attendance on them has risen from a few hundred to over two million. Theoretically, the goal of free public secondary education for all, regardless of social or economic status, has been reached. In the field of secondary education we are beginning actually to realize the democratic ideal of equal opportunity for all. Equality of opportunity does not necessarily mean the same opportunity. What it does mean is the giving to every individual of his opportunity through education to develop whatever capacities he may possess. Recognizing the difference in endowment, the high school has multiplied its courses to meet the varying needs of its pupils. Dr. Royal S. Copeland, U. S. Senator from New York state, says that the school is for service, not self; that it is not a parents' association combining to give their children personal benefits; that it is not a device to secure fame for ambitious youth; that the founders of the public schools said they were for the general welfare, not individual gain.

In working out the general welfare of a school as a whole, two questions confront the administrator: *First,* given a definite task to be done, what is the minimum amount and the best arrangement of the time necessary for its accomplishment? *Second,* from the standpoint of the general welfare of the school as a whole, is it desirable that this minimum be increased? Until these two questions are answered, I see no way of determining the length of the school day.

School Authorities Favor Longer Day

If by a shorter day is meant less actual time to be devoted to school work, the question is emphatically answered in the negative by the studies and opinions which have already been mentioned. The unmistakable demand from school authorities is for a longer and not a shorter school day. The principals of the Ithaca junior and senior high schools during the last semester asked for a lengthening of the school day, a request that was sustained by the entire faculty of one of the two schools.

It must be remembered that in New York state, the amount of work set for the high schools has been determined by forces over which local school authorities have no control. If a school should fall below the standards thus imposed, it would mean that the school would be discredited and held up to ridicule by comparison with other schools rated by the same authority. In other words, the professional reputation of the individual teacher depends upon the maintenance of the prescribed standards by his or her school.

Furthermore, these standards are constantly rising, and the demands upon high schools are annually increasing. To meet these imposed requirements successfully is one of the keenest problems that a high school encounters. As the demands upon the schools have increased, the school year has increased from 28 to 32, to 36 to 40 weeks, and it would seem that further demands must result in a lengthening of either the school year or the school day. If more is required, more time will be needed in which to accomplish the work. In 1912, the Boston school committee, feeling the pressure, extended the school year to include June 30 and to begin a week earlier in September.

The school year in New York state consists of forty five-day weeks or 200 days; but this time is cut down by holidays, special days, examination periods, and commencement, and is interrupted by drives and vacations. These occasions cut the time to less than 180 teaching days, less than one-half the calendar year, and with just about one-third of the waking hours of the pupils during this scant half-year spent at school. An impartial study of the question as to what the length of the high school day should be, keeping in mind the demands made upon the school and the interests of the entire student body, will convince the investigator that the time cannot be shortened.

Single Session Undesirable

The second phase of this question has to do with the arrangement of the time. Granting that the time remains the same, can the work be compressed into a single session; or, if not, can there be some utilization of the luncheon period whereby the pupils may leave the school for the day at an earlier period?

First, let us consider the single session. By a single session is meant one continuous period with no time out for lunch, at the close of which the pupils leave the school for the day. By opening the school at 8 o'clock it would be possible, with no intermission, to close at 1:15 and preserve the present five and one-half-hour day. This would bring the mid-day meal for high school pupils at 1:45, and where families have children in the elementary school would necessitate two mid-day meals. To open school later than 8 o'clock would postpone the time to so late an hour as to make necessary some provision for luncheon, that is, it would necessitate some form of the two session plan if the school day remains five and one-half hours.

Leaving out of the discussion the question of home study, let us consider the possibility of reducing the length of the school day. To one unfamiliar with the complexities of the high school daily program, this might seem feasible. And it would be if all pupils always passed their work, if parents during the four years of a high school course never changed their plans for their children's education, if all higher institutions had the same entrance requirements, if there were but a single course of study, and if all children had the same mental attributes and capacities. But since this utopian state does not exist, the result is that manifold conditions have to be met. Children fail in their work and find themselves repeating a first-year course along with second-year work, different courses with different objectives are set; elective studies to meet conditions imposed have to be provided for; these and similar conditions make it next to impossible to arrange a program for a thousand or more pupils so that each may get five periods per day for work without conflicts.

Broadened Scope of the Schools

It should be kept in mind that there has been a great change on the part of the general public in its conception of what its schools should do. The old conception that school was an intellectual machine for putting points on intellects has given place to the conception that the school is a public service station, where the interests of the public as a whole are to be ministered to — the classically-minded, the motor-minded, the commercially-minded; the gifted and the less gifted; the physically strong and those whose health must be given attention. To each of these types, through as free election as possible, is given the opportunity to develop whatever aptitudes the pupil may have been endowed with. Nor does the high school limit its field to the merely intellectual training of the pupil of whatever type. In response to public demand, the legislature requires physical training and health education and encourages opportunity for development of personality through self-expression in supervised extra-curricular activities.

Under these conditions every decrease in the number of periods multiplies the difficulty of making a conflict-free schedule. Professor Charles H. Judd of Chicago University, in urging a longer school day, says:

"There is much to be said in favor of the longer supervised period of school activity. A longer day would make it possible to put physical activity on a proper basis as a part of the supervised educative work of all students. It would give larger opportunity for supervised study, and it would give much needed administrative relief in organizing individual curricula by distributing electives over more recitation periods. When one attempts to include all that is suggested as desirable in the school, there can be no doubt that the lengthening of the school day is theoretically the simplest first step in the solution of the problem."

The only way to compensate for the loss of a school period would be either to increase the number of teaching periods per teacher or to increase the number of teachers. To adopt either of these expedients would inevitably mean increased expenditures which the tax-paying public would approve only on condition that it secured to the majority of pupils an obvious gain in educational value and social welfare.

That school authorities generally have found a high school day of five and one-half hours to be the irreducible minimum is shown in various published studies upon the length of the high school day. In the SCHOOL BOARD JOURNAL for May, 1925, for example, is an article on this topic by the Superintendent of Schools of Pontiac, Mich. His investigation showed that out of 32 schools, 21 had seven or more periods, the number running in some schools as high as ten; and that 20 of these had a school day longer than five and one-half hours. In the other eleven schools, six had six periods of 60 minutes each, or a six clock-hour day. The remaining five schools had a five-period day with periods ranging from 65 to 72 minutes each, making the school day in every case longer than the five and one-half hour day. That is, 31 of the 32 schools in fifteen states covered by the investigation had a longer school day than Ithaca.

The Continuous Session

Admitting the difficulties in the way of the single session, may it not still be possible to

[1]Address delivered before the High School Parent-Teacher Association, Ithaca, N. Y., June 3, 1926.

effect an earlier closing by cutting down the noon recess? This brings us to the consideration of the "continuous" session. By "continuous" session is meant an arrangement by which the pupils remain at the building from the time that school begins until it closes for the day, provision being made for a short intermission for lunch. In the replies received from 74 cities in eight states, seventeen of the larger cities have the "continuous" session. Under the "continuous" session plan, the school authorities assume responsibility for the midday meal, excepting in those few cases where the pupils live in the immediate vicinity of the school. Usually the school is divided into three sections for the purpose of the lunch period and lunch is served in the school cafeteria at 11:30, 12:00 and 12:30, allowing 30 minutes for each section. This plan presupposes adequate dining room and kitchen facilities. One thousand and eighty-one pupils were registered in the senior high school this year. This plan, if adopted here, would mean providing dining room and kitchen equipment for approximately 350 pupils in each relay. If the junior high school, with 437 pupils now housed in this building, were to continue on its present double schedule, serious administrative problems would arise.

To provide for this arrangement would necessitate *either* the transfer to some other building of pupils at present housed in this one, *or* the removal of the shops to other quarters to be provided for, and would necessitate the reconstruction in part of the ground floor. The adoption of the "continuous" session, however, does not insure the realization of a shorter school day. Of the seventeen cities having this form of organization, all have a five and one-half hour day or longer, some now have a six hour day, and six of the seventeen are asking for a still longer day. Whether the added expenditure in buildings and equipment would be a legitimate charge in view of the almost universal practice to the contrary in cities of the size of Ithaca would, of course, be a question which the taxpayers alone would have to decide.

The single session practically does not exist in this state. Of the 74 replies received only eight report a single session. Of these, four have the single session because of the necessity of using the building for two shifts of pupils, the second shift remaining as late in some cases as 5:30. Out of this 74, two do not express themselves, thirteen are satisfied with present arrangements, and 59 ask for a longer school day. Those expressing themselves as satisfied, with one or two exceptions, now have the "continuous" or double period with practically the six hour or longer day. Three cities have tried and abandoned the single session. Of the 74 cities replying, 47 are in New York State.

What the Single Session Means

The single session means that the school becomes merely a place for the hearing of recitations and the conduct of such laboratory work as science requires; and that the task of supervising the study, the physical training, the extra-curricular activities, and the recreation of the pupils becomes the responsibility of the home. In education it is no longer permissible to talk about the "average" child. There is no such child. And, in talking about the "average" home, it is equally true that there is no such thing as the "average" home. We deal with children as individuals and we must consider homes as individual homes. Beyond a doubt there are homes equipped for this task, and it is equally certain that the majority of homes are not so equipped. For the study of history, literature, and language, libraries are needed, as are laboratories in science; and for young people who have not yet learned how to study, and where to find things in libraries, how to use indices and tables of contents, there must be the guidance which can be rendered only by trained experts. The signs of the times point with no uncertainty to a fast-approaching time when the school day will be so lengthened as to make possible supervised study covering all of the work of the individual child. Upon this point United States Commissioner John J. Tigert writes under date of May 19: "In my opinion the high school day should be at least six hours in length so the pupils may have an opportunity to prepare their lessons at school. Conditions have so changed within the past few years that children do not do much school work at home. Moving picture shows, radio, and many other attractions have a stronger lure than school lessons. These are the conditions and I see no way of meeting them except by making the school day so that practically all work can be done at school." The principal of our high school has this year checked up the "D" group of pupils with reference to home study and he reports that this group now in our high school admitted that practically no studying at home has been done this year.

In this connection the experience of a neighboring city which tried the single session and abandoned it is most convincing. The superintendent writes: "Pupils of the high school were divided into two groups—those who had completed the work of the term without failure in a single subject, and those who had not been so successful. The former group were required to attend but a single session, the latter two sessions, and for this latter group supervised study periods were arranged. For the second term of the experiment (a whole semester) the personnel of the two groups was almost entirely reversed. There were involved approximately 1,000 pupils." More convincing evidence could hardly be found that the majority of homes are not equal under present conditions to the task of supervising the study of high school pupils.

Some Opinions of Educators

"American Education" for January, 1917, quotes Superintendent Herbert S. Weet of Rochester as follows:

"In my judgment school should begin at least as early as 8:30 in the morning, should close at 11:45, begin again at 1:00 and close at 4 o'clock, making a six and one-fourth hour school day."

The Hon. Payson Smith, State Commissioner of Education for Massachusetts, under date of May 29, 1926, writes as follows:

"There is no question in my mind that the present requirements of education call for a longer, rather than a shorter, school day for junior and senior high schools.

"There are many reasons why the longer day should be provided. Among others, it is clear that the building and its equipment provide the best possible atmosphere and environment for carrying on the essential work of the schools. So far as possible, youth should go to the school to take up and complete the educational work of the day. It has been found that, in schools where the longer school day has been instituted, there has been marked improvement in the scholarship standards of the students.

"It is also important that many of the activities hitherto known as extra-curricula should be definitely planned for as parts of the educational work of the school."

James N. Rule, Deputy State Superintendent of Schools for Pennsylvania, says: "The trend in Pennsylvania is toward lengthening rather than shortening the school day. This department strongly recommends a six period high

(Concluded on Page 169)

A Study of the Practice of Single, Double, or Continuous Daily Sessions for High Schools, Representing a Summary of the Data in a Questionnaire Submitted to 95 City Superintendents in Eight States. Of the 95 addressed, 69 replied to the Questionnaire.

	Do you have a **single** session?	Do you have a **double** session?	Do you favor a longer **or** a shorter day?	Additional information from comments in questionnaire
Amsterdam, N. Y.	No	Yes	Longer*	S. S.† tried and abandoned
Auburn, N. Y.	No	Yes	Longer*	S. S.† tried and abandoned
Beacon, N. Y.	No	Yes	Longer*	
Beverly, Mass.	No	Yes	Longer*	Increased 45 min. this year
Binghamton, N. Y.	Yes	No	Longer	Two shifts. Lacks room
Bridgeport, Conn.	Cont.	No	Longer	Session 8:30 to 3:00
Bristol, Conn.	No	Yes	Longer*	
Canandaigua, N. Y.	No	Yes	Longer*	
Canton, Ohio	No	Yes	Longer*	
Cohoes, N. Y.	No	Yes	Longer*	
Corning, N. Y.	No	Yes	Longer*	
Cortland, N. Y.	No	Yes	Longer	Has 6 hour day
Dunkirk, N. Y.	No	Yes	Longer*	
East Orange, N. J.	No	Yes	Longer*	
Elmira, N. Y.	No	Yes	Longer*	
Erie, Pa.	No	Yes	Satisfied*	
Flint, Mich.	Cont.	No	Longer	Session 8:25 to 3:35
Fulton, N. Y.	No	Yes	Longer*	
Geneva, N. Y.	No	Yes	Longer*	
Glen Cove, N. Y.	No	Yes	Longer*	
Glens Falls, N. Y.	No	Yes	Longer	Has 6¼ hour day
Gloversville, N. Y.	No	Yes	Longer*	S. S.† tried and abandoned
Hartford, Conn.	Cont.	No	Longer	Session 8:30 to 2:45
Holyoke, Mass.	Cont.	No	Satisfied	Session 8:20 to 2:20
Hornell, N. Y.	No	Yes	Longer*	
Hudson, N. Y.	No	Yes	Longer*	
Jamestown, N. Y.	No	Yes	Longer*	
Johnstown, N. Y.	No	Yes	Longer*	
Kingston, N. Y.	No	Yes	Longer*	
Lockport, N. Y.	No	Yes	Longer*	
Mechanicsville, N. Y.	No	Yes	Longer*	Favors 6 hour day
Middletown, N. Y.	No	Yes	Longer*	
Meriden, Conn.	No	Yes	Longer*	
Montclair, N. J.	Cont.	No	Satisfied	Session 8:30 to 2:25
Nashua, N. H.	Cont.	No	Satisfied	Session 8:10 to 1:15
New Rochelle, N. Y.	Cont.	No	Satisfied	Session 8:45 to 3:30
New York City, N. Y.	Cont.	No	Satisfied	Session 9:00 to 3:00
Newton, Mass.	Cont.	No	Longer	Session 8:30 to 2:00
Newburg, N. Y.	No	Yes	Longer*	
Niagara Falls, N. Y.	Cont.	No	Satisfied	Session 8:45 to 3:15
Northampton, Mass.	Yes	No	Longer	Also has restricted to P. M.
North Tonawanda, N. Y.	No	Yes	Longer*	
Norwich, Conn.	Cont.	No	Satisfied	Session 8:30 to 1:30
Norwich, N. Y.	No	Yes	Longer*	
Ogdensburg, N. Y.	No	Yes	Longer*	
Olean, N. Y.	No	Yes	Longer*	
Oneida, N. Y.	Yes	No	Longer	Two shifts. Lacks room
Oneonta, N. J.	Cont.	No	Satisfied	Session 8:30 to 3:30
Passaic, N. J.	Cont.	No	Longer	Session 8:15 to 2:00
Plainfield, N. J.	No	Yes	Longer*	
Plattsburg, N. Y.	No	Yes	Satisfied	Has 2 Sessions 9:00 to 4:00
Poughkeepsie, N. Y.	No	Yes	Longer*	
Portsmouth, N. H.	Yes	No	Longer*	
Rensselaer, N. Y.	Cont.	No	Longer	Session 8:15 to 1:15
Rome, N. Y.	No	Yes	Longer*	Favors 6 hour day
Salamanca, N. Y.	No	Yes	Longer*	
Saratoga Springs, N. Y.	No	Yes	Longer*	
Schenectady, N. Y.	Yes	No	Longer	Two shifts. Lacks room
Sioux City, Ia.	No	Yes	Longer*	
Springfield, Ohio	Yes	No	Longer*	
Stamford, Conn.	Yes	No	Longer	Two shifts. Lacks room
Syracuse, N. Y.	Cont.	No	Longer	Session 9:00 to 3:30
Toledo, Ohio	No	Yes	Did not state	
Tonawanda, N. Y.	No	Yes	Did not state	
Troy, N. Y.	Cont.	No	Satisfied	Session 8:30 to 3:00
Watertown, N. Y.	No	Yes	Longer*	
Watervliet, N. Y.	Yes	No	Satisfied	
White Plains, N. Y.	Cont.	No	Satisfied	Session 8:30 to 2:30
Zanesville, Ohio	No	Yes	Longer*	

*Length of school day not given.
†"S. S." abbreviation for "single session."

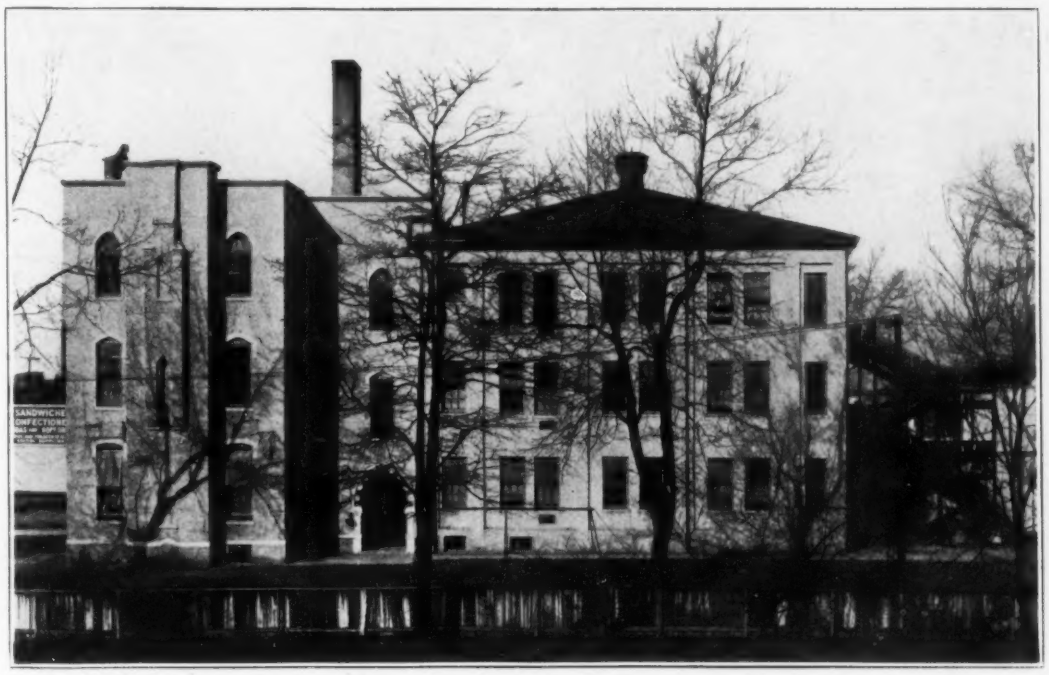
An Old School Building Transformed

The Carpenter School Problem at Evansville, Indiana

The problem, when to replace an old building with a new one, is frequently difficult of solution. Even more difficult is it to rebuild so as to secure a modern structure and at the same time utilize any considerable part of the old. Here was an old school building, one part of which was constructed in 1840 and the other in 1878. The former was of the square box pattern with the corridor running through the center and two rooms on either side in each of three stories. The latter was attached to the former at the end of the old corridor through a new corridor at right angles to the old, the new part being somewhat wider than the old, resulted in a building of tee shape. Old stairs were removed and new ones installed on both sides of the junction of the two corridors.

The problem was to utilize the old as a part of the new, and it was left to Architect Charles L. Troutman of Evansville to find the solution. The thought was to rear a modern school structure and to utilize the economies that would accrue by using the old walls and what there was of a foundation.

"The original building was heated by stoves, there was no basement, except a small cellar for coal storage, and no toilets within the building; windows were few in comparison with modern practice," said Mr. Troutman. "The roof was a low pitched 'hip' roof with a plain simple cornice. The roof framing was exceptionally well executed and was evidently designed by an expert engineer, all members being carried on four timber trusses, two being placed at right angles to the other two, and were spanned from wall to wall, thus leaving the roof independent of any support from the structure below, except the outer walls. The latter building, although being good structurally except the roof, having been designed during that period in American architecture when the worst was 'Artistic' (?) and the best was unappreciated, was a bad conglomeration of pilasters, corbels, recesses, brackets, dormers, sheet metal cornices, etc. This building originally had no sanitary conveniences, but some few years later a hot-air furnace and toilets in the basement were added. The roof was high pitched, full of dormers, turrets, hips, gables, and large, wide-spreading cornices with heavy brackets, all constructed of sheet metal. The roof framing was evidently done by 'rule of thumb,' no thought being given to any structural system."



SIDE VIEW OF THE CARPENTER SCHOOL AFTER REMODELING.
Charles L. Troutman, Architect, Evansville, Ind.

The school board had decided to remodel this structure rather than raze it, and rebuild. Architect Troutman recommended to the board that the old heating plant be removed, a new one installed, all old windows removed and new ones installed in their place, and additional windows to give adequate daylight; new floors laid throughout the building; new blackboards installed in place of old ones, and additional boards where needed; renew all interior trim and all the hardware.

He also decided to renew the roof over that portion of the building erected in 1878, remove certain portions of the brick work such as corbels, turrets, etc., stucco the entire area of exterior walls, install four toilet rooms, two in the basement and two in the third story, and erect a new auditorium-gymnasium building independent of the old structure, except a connection by corridor. It was decided to remodel the old building immediately and erect the auditorium-gymnasium at a later date.

The working plans were drawn and building contract was signed June 9, 1925, and the work was completed on September 1, 1925, with the result that a substantial, modern, and sanitary twenty-four room building was reared.

The exterior finish is Portland cement and magnesite stucco, dashed with crushed granite of various shades. The window frames and sash are painted an apple-green shade. The various old stone and brick arches were not stuccoed. All windows are of the Austral type; interior wood trim is poplar enameled in battleship gray; the blackboards are Sterling slate, the trim hardware finish in dull brass, classroom floors are maple, toilet room floors are tile. All interior walls and ceilings have been decorated with flat oil paint, buff in color. The flat portion of the roof is covered with a flintkote composition roof. All flashing, gutters, and down spouts are of copper.

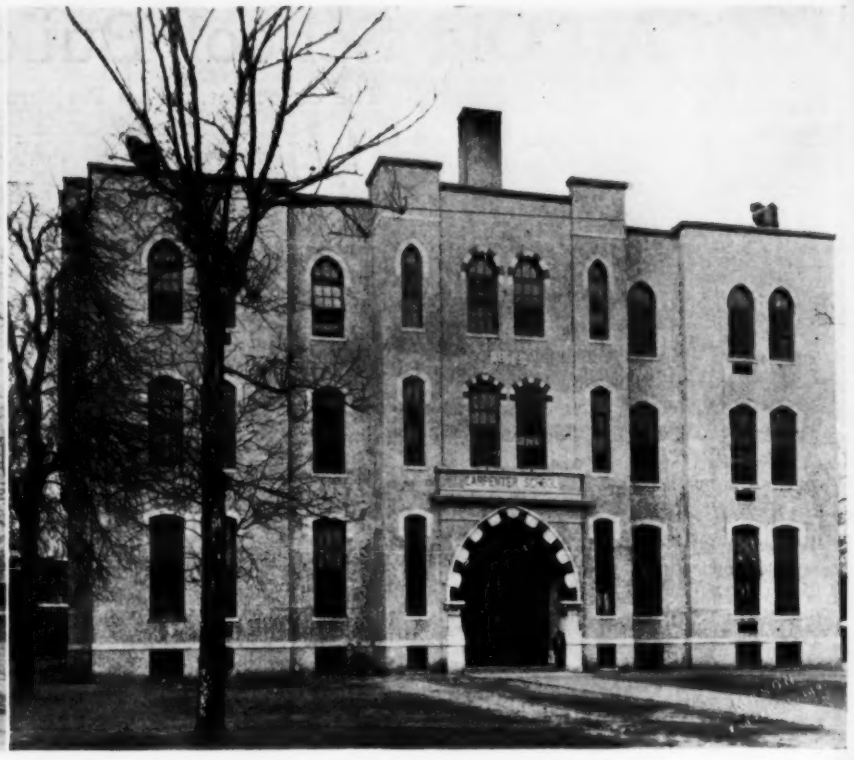
The boiler room is in the basement, which has been made fireproof by furring the ceiling with metal, covering with metal lath, and applying two inches of Portland cement. The basement floor is of cement; all walls are brick; and all communicating doors are tin-clad and fitted with an automatic closing device. There is located in this room a G. & G. electrically driven telescopic overhead crane ash hoist.

The toilet rooms, two in the basement and two in the third story, are furnished with sanitary closets fitted with syphon jet, raised rear vent, open front seats, and the push button valves. Solid porcelain urinal stalls, 18 inches wide and 46 inches high, were used, fitted with the push button valve and local vent. The toilet stalls are of slate with ventilating chamber into which all fixtures are vented through their local ducts. The air from this chamber is exhausted through a flue which extends above the roof, by an electrically driven blower having a capacity of 375 cubic feet of free air per minute. A water heater and storage tank are located in the basement, which furnishes hot water to the lavatories.

The most important change in the remodeling of this building was the installation of a very complete vacuum steam heating and ventilating system. A cast iron boiler was installed having a capacity of 20,400 square feet of direct radia-

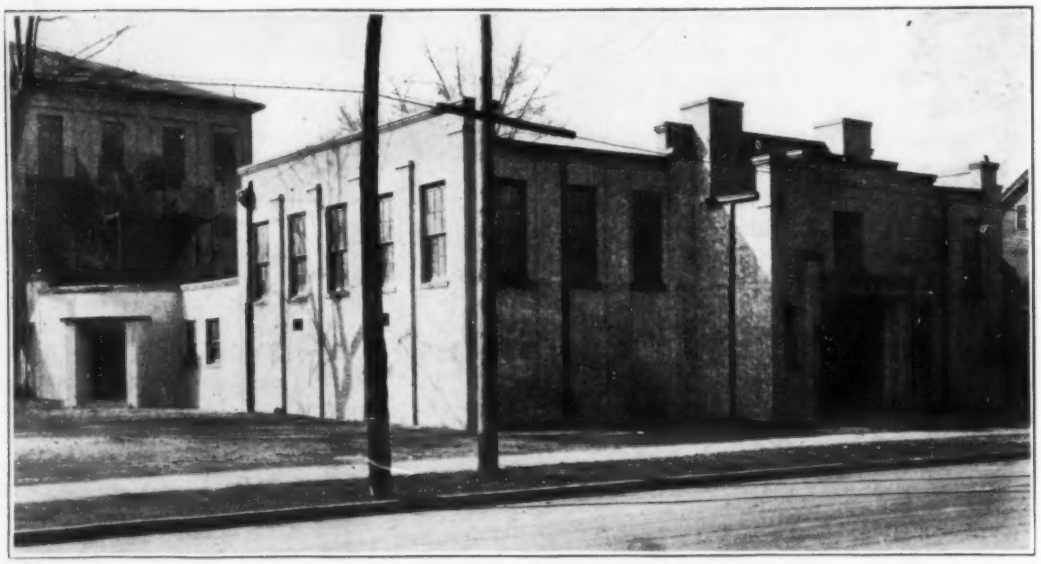
SIDE VIEW OF THE CARPENTER SCHOOL BEFORE REMODELING.

FRONT FAÇADE BEFORE REMODELING.



FRONT FAÇADE AFTER REMODELING.

CARPENTER SCHOOL, EVANSVILLE, IND. Chas. L. Troutman, Architect, Evansville, Ind.



VIEW OF THE GYMNASIUM OF THE CARPENTER SCHOOL, EVANSVILLE, IND.
Charles L. Troutman, Architect, Evansville, Ind.

tion. This boiler is of sufficient capacity to also heat the auditorium-gymnasium. The building is heated by direct radiation and by univent heating and ventilating units. These units are of the portable type, with vertical discharge having a velocity of 1,000 feet per minute. The electric motors and fans are of the low speed type, fitted within the univent cabinet, and are noiseless. Temperature control is accomplished by means of mixing dampers placed in the outlet of each machine. Fresh air is taken into the machine direct from the outside through wall boxes which are also fitted with dampers having thermostatic control. A Nash combined vacuum and condensation low pressure boiler feed pump was installed. All rooms throughout the building are so arranged that thermostats controlling the univents and direct radiators are in relays so that direct radiators remain closed until required to assist the univents to heat the room. Foul air shafts are also fitted with dampers which are under thermostatic control.

The auditorium-gymnasium addition contracts were signed August 21, 1925, and completed February 15, 1926. This is a one-story brick building with the exterior stuccoed and designed to conform as nearly as possible to the original building. It contains a combined auditorium-gymnasium 41 feet wide and 65½ feet long, a stage 23 feet wide and 20 feet deep, which is furnished with foot and border lights and fully equipped scenery, a toilet and shower room for girls and boys, a kitchenette with sink, gas stove, cupboard, etc., and over the front entrance vestibule there is provided a moving picture projection booth.

The interior walls are of glazed buff brick erected to a height of ten feet, in the auditorium-gymnasium, in the corridor to a height of five feet, and in the toilet and shower rooms to a height of 7½ feet; above this height the walls are smooth red brick laid up in white mortar. All roof slabs are of pyrobar, laid on steel girders, which in the auditorium-gymnasium are left exposed, all others being lathed and plastered. The roof is covered with a Philip Carey four-ply composition roof. All gutters and down-spouts are of copper. The total cost of the two buildings was $105,659.

VENTILATING SCHOOL BUILDINGS

At the 32nd semi-annual meeting of the American Society of Heating and Ventilating Engineers considerable discussion was given to the subject of ventilation. Dr. J. E. Rush, head of the department of hygiene of the University of Kentucky, pointed out that there was a definite need for controlled and conditioned air as there was for milk or water. He pointed out that the kind of air surrounding the body is of nearly equal importance with that which we breathe. To produce air with the proper purity, humidity and air motion, artificial means are necessary and windows alone do not provide uniform distribution of properly warm air, particularly in cold weather.

He contended that there is the greatest need for study in the matter of ventilation in schools and pointed out that the financial investment for properly designed, installed and operated equipment in schools is more than justified by the decrease of disease among children. The diseases of the respiratory tract, chief among which is tuberculosis, are far more costly to the community than the ventilating system would be.

"The control of factors in ventilation to produce clean, fresh air, free from dust and germs, such as the open air of the country, is normally in the congested living conditions which our urban civilization has created, the function of the ventilating engineer," said Doctor Rush, "and through a careful study of the problem in the Research Laboratory such results can and will be obtained.

"The fault of ventilating engineering in the past has not been with the engineers, but is due to the slow progress of investigation in this field by the medical profession which has absolutely failed to derive positive data on the best atmospheric conditions for schoolrooms. The poor operation of systems which engineers do install is also due to the janitors who run them."

The concluding paper of the program was given by J. R. McColl and was entitled "Heating and Ventilating a Classroom without Direct Radiation." He explained a rather unique system of ventilation whereby the introduction of air is accomplished through slits in window sills through which warm air is forced from an insulated chamber in the wall. By this method pupils in outside aisles do not become uncomfortable by being too close to radiators nor do they suffer from cold drafts from windows.

What Should the Superintendent Expect to Find in the Potentially Successful Teacher?

Harlan C. Hines

(Conclusion)

VI. TECHNIQUE IN TEACHING

Should the superintendent find through interview and inquiry that a teacher under consideration has all or most of the excellent qualities mentioned in the foregoing discussion, it would be a waste of his time to ascertain whether or not such a person would be a success in the classroom. Consequently, it may seem hardly necessary to include a treatment of teaching technique. Yet, there are many superintendents who prefer to see the teacher at work in the classroom before judgment is passed and a decision is made. Then, too, an estimate of teaching skill, based on a knowledge of personal qualities only, is subject to error. Therefore, a word or two about the points to be looked for in judging teaching capacity may not be amiss.

Some of the general qualities that may be taken into consideration by the superintendent when he has the opportunity to observe teaching are: Evidence of preparation for the lesson observed; definiteness of aim in leading the discussion; appropriateness of method in teaching the subject; the relative value of the questions asked; presence or lack of participation and interest of the class; the industry with which the teacher carries on the task; and the spirit of cooperation manifest.

Only the especially gifted may serve well without preparation and these not without notable exception. The main question to be raised here is: Does the teacher have a daily plan? Such a plan is intended to keep the day's work clear, definite, and concrete and to keep the subjects so aligned that the time of none is encroached upon.

An estimate of industry may be arrived at indirectly through a judgment of evidence of preparation. Industry implies earnest and constant application to the task at hand. But it also means productivity. Of course, the teacher can not be judged fairly, on activity alone, since there are those who feature activity as a smoke screen to cover failure to achieve actual results. Again, the temporary absence of activity does not always mean that the teacher is not industrious.

The teacher should have a definite aim in presenting the lesson and should repeatedly return to the point. The pupil as well as the teacher should know the aim, for no single lesson will have been covered successfully unless the aim is clearly apparent.

Teaching when properly done is considered to be an art. The method employed will depend upon the aim of the lesson but, whatever the method utilized, it should call for activity on the part of each member of the group. In determining upon the method, both the subject and the children should have been taken into consideration. It may call for drill material, problem material, or appreciation material, and the superintendent will be on the lookout for the employment of any of these three types in order to be able to judge the appropriateness of method for the particular lesson presented at the time of observation. He may not be familiar with the subject matter, but the successful teacher will have taught him as well as the pupils.

Nothing has greater weight in making teaching an art than good questioning. The trend and sequence of the questions to be asked, in line with the aim set up, should have been decided upon while the lesson was being prepared. A teacher who does that for every lesson is invaluable to the system.

The real marks of success in teaching, however, will center in the general participation of the children in the recitation or class discussion. Motivation through project or problem, through socialized recitation or dramatization, is often considered important in securing the general reaction. It is not an easy task to present a lesson in one of these forms in such a way that each and every child will constantly perform at his best. Children differ so much in their various characteristics that it is next to impossible to see to it that each one is constructively employed. This is a condition that perhaps the superintendent should never expect to find, but he will realize fairly easily what habits of participation already have been inculcated.

Method alone, however, will not guarantee interest. Teaching is enhanced by good personality. This is a truth that all recognize, but few, because of the inadequate definition that must always be given to the term, have attempted to analyze. One attains high levels by having the ability to develop such personal qualities as were listed in the foregoing discussion and his personality is said to be strong, or pleasing, or rich, to the degree that he reacts or responds to new situations. In observing teaching the superintendent is not bent on securing an estimate of personality, but his judgment is sure to be influenced by the personality of the teacher whose work he observes, just as teaching itself is controlled and influenced by the instructor's personal qualities.

In judging the quality of cooperation the superintendent may do so from the three following standpoints: First, cooperation with official superiors, such as principals and supervisors; second, cooperation with peers—other teachers; and third, cooperation with wards—the pupils under instruction. The last named may be the only one evidenced in the classroom, but information may be secured about the other two at the time of observation through well-chosen questions addressed to the teacher, to his colleagues, and to his superiors.

Recapitulation

The reader might naturally surmise that the conclusion to this discussion would take the form of a rating scale, but the writer has had in mind a different goal. For several years he was engaged in offering instruction in the making and use of standardized tests and rating scales and he formed some rather clear-cut impressions of the values of these as instruments in the hands of busy administrators. Without resorting to a diatribe on those impressions, he may say that for the superintendents of the smaller cities and towns there is a better way to get at the estimate of possibilities in teachers. The chief value of the rating scale lies in the fact that it provides us with a guide for whatever ratings we may make. Granted that this is true, of much more value would be a chart, in form not unlike some of those which superintendents in the larger cities are accustomed to use in problems of publicity, supervision, etc., made up of a series of questions to which the administrator may refer when desirous of determining the potential worth of a candidate for position or promotion. This chart, the writer feels, should include the following points:

SELECTION CHART

1. Is the candidate adaptable to his environment?
2. Does he learn readily?
3. Can he and does he work hard?
4. Does he have a strong desire to learn and to teach?
5. Does he desire to emulate successful teachers?
6. Is he sincere, sympathetic, and unselfish?
7. Is his interest unwavering?
8. Does he attend actively?
9. Are there or have there been other members of the family in the teaching profession?
10. Has he learned self-control, patience, fairness, and to hold himself responsible?
11. Is he prompt, direct, thorough?
12. Does he enjoy detail work?
13. Is he enthusiastic and optimistic?
14. Does he cherish high ideals?
15. Does he know and exercise proper forms of conduct and dress?
16. Does he speak well and easily?
17. Has he a religious and moral purpose?
18. What types of recreation does he enjoy?
19. Does he reason, appraise, and align well?
20. Is his judgment conservative?
21. Is he well-grounded in his subject matter?
22. Has he learned to size himself up?
23. Has he powers of explanation and inspiration?
24. What attitude does he take toward his own training?
25. What does he know about methods of teaching, individual differences in children, and the social foundations of training?
26. Why has he submitted himself to professional training?
27. What has been the breadth of his program of studies?
28. Was he graduated?
29. What was his scholarship average?
30. Is he trained for the position in question?
31. Is his training on a par with his experience?
32. Is he physically healthy?
33. Is he physically and mentally clean?
34. Does he indulge in public speaking, writing, travel, attendance upon conventions, well-directed reading, etc.?
35. Is he temperate in all things?
36. Has he a sincere desire to be of service?
37. What are some of his personal habits?
38. What are his strong points as a teacher in the classroom?
39. Is there evidence of excellent preparation?
40. Does he have a definite aim?
41. Are his methods of teaching appropriate?
42. Are his questions relatively valuable?
43. Is the class interested and does it participate freely?
44. Is he industrious?
45. Does he cooperate?

None of these questions will be without a comparatively ready answer. To the superintendent who has had many years of experience in selecting teachers they may seem superfluous and gratuitous. Yet it is such an easy thing to overlook the most important point of information desired that the writer feels justified in listing them and reasonably sure that no teacher who wishes to advance would resent a fair means of propounding them. What they really mean when skeletonized is this: With what native tendencies has the candidate been endowed? Have home influences better prepared him to go ahead in the teaching profession? Is he college-trained and did it help him? Is he professionally-trained and what was the general effect? Is he healthy in body, mind, morals, social contacts, and religion? And, finally, can he teach?

The superintendent may if he so desires give a proportionate value to the answers he secures. But that is not intended. The chart as such is offered here simply as a guide to interview and

(Concluded on Page 170)

Cutting Routine in the Business Manager's Office

Arthur J. Peel, Boston, Mass.

The appointment of a business manager in school departments is becoming increasingly favored, and one of the best illustrations of the advantage of such an appointment is in the public school system of Worcester, Massachusetts. Mr. Joseph Beals, business manager of the Worcester public schools, relieves the superintendent of all matters relating to the purchase of school supplies and equipment, the supervising of janitorial affairs, the keeping of accounts, and the payment of bills, thus leaving the superintendent free to devote the major portion of his time to those duties most closely allied to his function as superintendent.

The natural assumption would be that in divorcing the office routine work from the superintendent's office, in so far as this entails the keeping of books, accounts, the issuance of purchase orders and the control of stores, the tendency to do more intensively and in greater detail, the work of recording and statistical development, would be in evidence in the business manager's office. This was what I expected when I called on Mr. Beals in Worcester, for the purpose of finding out how he handled certain school administrative problems in his office. But I was in for a surprise. Notwithstanding the fact that Worcester spends something over three million dollars a year on public schools, the business of administering and accounting for this expenditure, is done on an overhead of less than two per cent, or, to express it in figures, a little less than $60,000. When I learned this, I knew at once that office organization, financial and statistical recording, and purchasing and stores control must have been reduced to very simple routine. This I found, eventually, to be the case, and as there are certain features that are unusual, and some that are open to criticism, we are presenting them to the readers of the SCHOOL BOARD JOURNAL for consideration.

Methods of Purchasing and Stores Control

Some years ago the purchase of school supplies and equipment was made on tenders from vendors. These tenders were opened only in the presence of the school committee, and the lowest bid usually secured the order, all things being equal. Under this arrangement the business manager was little more than a "rubber-stamp" in so far as the purchasing of material and supplies was concerned. One result of this method was that the purchase of supplies was often delayed, and consequent inconvenience occasioned to teachers and instructors. But what was more vital was that the selection of the right individual or firm from which to purchase the required supplies or equipment, was not always the right one, because the members of the committee could not be expected to know intimately all the conditions and requirements that governed the situation. Another strong argument brought to bear on this practice, and which eventually broke it, was that the school committee was occupying its time with routine work which could be done as effectively by the official appointed to look after the business end of the school system. Thus, eventually, the responsibility of making purchases was left with the school manager, with the result that purchases are expedited, and the practice of calling for tenders has been eliminated because the business manager knows where he can buy to the best advantage, and where he can obtain exactly what is required.

But Mr. Beals has gone a step further, and it is here that he has shown a disregard of conventional business methods and yet a sure sense of what is ideal practice. The business manager of the Worcester schools realizes that the teacher, instructor, or principal making requisition for certain supplies, material or equipment, knows better than anybody else just what he wants, and how to get it; and because he believes this, he seldom disputes with a requisitioning officer or teacher concerning the goods to be purchased, nor from whom they shall be purchased. Of course, this is contrary to much that has been advanced by students and authorities on business economics, yet the fact must be admitted that in Worcester this policy seems to have worked unusually well, and, as far as one can tell, it has meant economical purchasing. Perhaps the real reason for this success may be traced to a fine spirit which seems to dominate the school system in Worcester, beginning with the school committee and going down the line until it touches and inspires the janitorial force; this spirit may be best expressed by stating that the policy of superintendents, department heads, principals, and all who exercise authority over others, is, *trust the individual.* The committee trusted the business manager and found it paid; the business manager trusts the principals, the instructors, the teachers, and all who are entitled to make requisitions for supplies, and he finds that his trust is not misplaced.

It will be readily appreciated from the foregoing, that much red tape is hereby cut out of the office routine. However, there is a very definite plan and routine followed in the case of all purchases. An official order is issued for each purchase of material, supplies, or piece of equipment. On receipt of the goods ordered, a receiving slip is made out either by the storekeeper of the main stores to which all supplies are delivered, distributed to different schools, or by the instructor or principal, where goods are delivered direct to specific schools. These documents are used to check against the invoice or bill, and they constitute a scientific triangular check which modern business demands as a safeguard against the payment of bills for material never ordered or delivered, under-shipments, and all the other possibilities for error or fraud which exist under modern business conditions. It should be mentioned that there is a dual certification of orders for purchases, the superintendent of schools certifying with the business manager, all orders for material, supplies and equipment.

Mr. Beals is a great believer in cultivating the human interest sense with firms and individuals with whom he does business. If a shipment of paper, for example, is not only up to sample but even a little better, he loses no opportunity of writing a genial and friendly letter to the firm expressing his appreciation, and he finds this *pays* all the time. His relations with vendors are such that he has repeated evidence that the taxpayers of Worcester lose nothing by the use of a little sentiment in business as it is practiced by their school manager.

Bookkeeping and Accounting Methods

If one were called upon to express a personal opinion on the system of bookkeeping and accounting in the business manager's office, it would not be one of unqualified approval. But this is due largely to the fact that the general organization of city departments is not along the best lines. I am of the opinion that all public school expense should be segregated in the office of the business manager, or in the superintendent's office, where no business manager exists. In the city of Worcester, only part of the school expense comes under the jurisdiction of the school committee. New buildings, improvements and additions to existing buildings, repairs and maintenance of buildings, including the heating and janitorial work, are all under the control of the superintendent of public buildings, consequently expenditures under any or all of these heads, are not reflected through the books of the business manager, except as statistical records after the expenditure has been incurred. This is a condition on which opinion varies greatly, of course, but I have found that it effectually prevents a full and complete story from appearing in the cost records of school work.

In the accompanying cut, showing the form of invoice distribution record used in Worcester, we have all the departments and classifications of which cognizance is taken in the business manager's office. It will be noted by those familiar with school expenditure items, that apart from the salaries of janitors, no provision is made for maintenance and operating expense of school buildings, and this for the reason that the bills do not come to the school office at all but to the office of the superintendent of public buildings.

In the matter of cost accounting, the Worcester school department has not advanced far in this direction. Certain expenditures are obtained for individual schools, but not in a way that will develop a definite cost of any particular classification for any one school, unless a teacher-salary cost. No cost of tuition in individual subjects has ever been obtained. As a matter of fact, the actual accounting and bookkeeping work entailed, is so little in comparison with some other school systems, that it is not difficult to understand why the overhead expense is so small in comparison with the total expenditure. The invoice register sheet illustrated here, is the main record, and from

Right — CITY OF WORCESTER SCHOOL DEPARTMENT

	Name	School	Total	Salaries: Teachers	Salaries: Others	Salaries of Janitors: Day Schools	Salaries of Janitors: Evening Schools	Salaries of Janitors: Contin. Schools	Textbooks Stationery & Supplies: Text Books	Supply Books	Reg. Books	State & Blank Books	Pens Pencils Ink etc	Appar.	Mat'ls for Illustration	Miscel	Printing & Miscellaneous: Printing	Trans. of Pupils	Exp. Postage Express Telegr.	Towels Soap etc	Miscel	Transf. School
1																						
2																						
3																						
4																						
5																						
6																						

Left — BILLS APPROVED FOR PAYMENT FOR THE MONTH OF 19

	Manual Training: High	Grades	Cooking	Sewing	Evening Schools: Teachers' Sal. Regular	Others	Regular	Drawing	Cooking	Manual Training	Continuation School: Salaries	Books	Supplies	Appar.	Miscel	Americanization: Salaries	Books & Supplies	Miscel	Practical Arts: Salaries	Dress making	Millinery	Cooking		
1																								
2																								
3																								
4																								
5																								
6																								

LEFT AND RIGHT HAND PAGES OF INVOICE DISTRIBUTION RECORD USED IN WORCESTER, MASS., SCHOOL DEPARTMENT.

this sheet totals are transferred to a ledger showing expenditure and revenue, sometimes by schools and sometimes under other classifications. The accounting is on a sound basis, as far as it goes; the question is, does it go far enough? The school authorities think it does, and when I raised the subject of per capita costs by schools, classes, and subjects, I was told that this had never been asked for. I know some communities where this would not be a sufficient excuse for not keeping cost accounts in connection with public school work, but it must also be recognized, that unusual ability, wide experience, and sterling character sometimes achieve without highly developed cost records, what is only possible, in other instances, when the best and only safe guide is figures. To judge the Worcester school system on the efficiency and completeness of its accounting records, would not secure for it a high place among the one hundred most efficient school systems in the country; but to judge it on the evidence available as to efficiency in public education, and on the ability of its officers, is to place it in a ranking position among the leading public school systems in the country.

Method of Appointment and Handling of Janitors

Theoretically all the school janitors are under the jurisdiction of the superintendent of public buildings and are appointed by him. The school department is, however, consulted in this matter, and it was the school department that was responsible for finding a solution for a problem that presented itself some time ago.

The school janitorial force is paid 52 weeks in the year and during the vacation periods the janitors are not required to do any more than keep the school clean. No special work is allotted to the force during the summer months; even small repairs are not permitted because of the objection of the trade unions in the city. It is easy to understand that under these conditions a problem was created that required some real constructive thought. It should be added also that according to the labor union requirements, no janitor may work more than eight hours a day. Now eight hours a day for a school janitor is out of the question; that is why some cities have two janitors for one school, one to work during the day and another in the evening. But the Worcester school department did not intend to capitulate so easily, and eventually they hit on this scheme which works admirably and raises nobody's ire: Janitors were advertised for who would take a school as a contract, the contract being that he would keep the school in proper condition and do all that he was expected to do, in his own time for a definite lump sum. The contract price was then subdivided into weekly amounts and these were paid to him as weekly wages. By this means the school department does not pay for idle time, neither are the school janitors bound by labor union rules.

It is encouraging to learn that the relationship between the school department and the other city departments, is one of real harmony. It is because of this fact that the defects in organization and routine do not show up so vividly as they would if there were a lack of perfect cooperation between related departments. It is also due to this spirit of cooperation that ninety cents out of every dollar of school tax, goes into tuition.

An Index of School Plant Operation Costs 1905-1925

H. H. Davis, St. Louis, Mo.

In these days of shifting prices it has become almost impossible to compare anything with the past without taking into account the changing value of the dollar, and weighting other values accordingly.

To facilitate such weighted comparisons, index numbers have been devised for most commodities and services. In making school cost comparisons it has usually been assumed that dollar values have changed with the cost of living, and in a large measure this is undoubtedly true. Some of the explanations of cost changes would be more lucid, however, and the comparisons more valid, if more accurate indices of costs were available, and toward this end, the index of plant operation costs here set forth was devised.

To determine an index of cost, it is necessary, of course, that constant units of goods and services be maintained so that only one variable remains. To do this in operation this study was limited to buildings which have been in continual use during the twenty-year period covered by the study, and the items of operation cost to those which have appeared at all times. These items were such as salary of janitors, coal, water, light, etc. In the city studied, 30 elementary buildings were found to measure up to those specifications and their records were chosen for analysis. It may be stated further that the buildings were not reconstructed or enlarged during the twenty years. These precautions were necessary, of course, to insure that the same thing was obtained for money expended year by year.

Table I shows the actual cost of the standard items of operation by years from 1904-05 to 1924-25, inclusive, and the per cent or index on 1913-14 as a base. The reason for selecting 1913-14 as a base was merely to make the index figures conform to the usual base of cost of living and other indices.

The increase has been rather even throughout the period with few setbacks. The total increase has been a little over one hundred per cent in twenty years, which is about what would be expected from trends of other index figures.

Because the buildings are all in one city and subject to the same management, a better indication of trend is furnished by removing the small influence of left-over stocks, delayed bills, etc., through the statistical procedure of smoothing. Table II presents such a smoothed index, together with a cost of living index and comparative tables of the value of the school operation dollar as compared with the cost of living dollar.

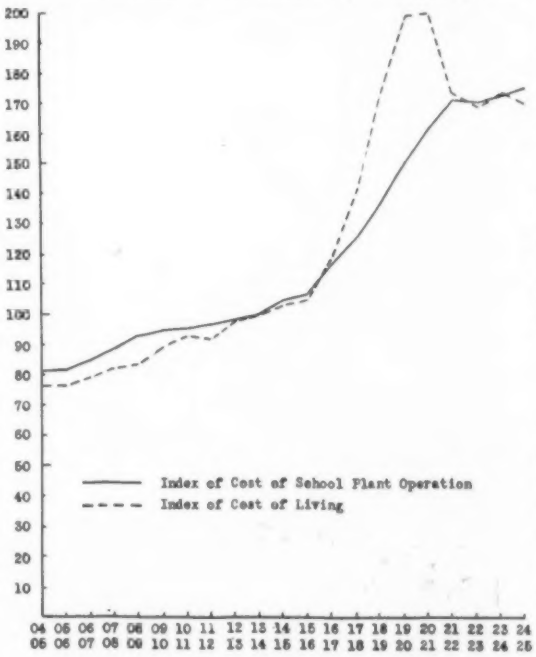


Chart I. Trends of Plant Operation Costs Compared with Trends of Cost of Living Over 25 Year Period

TABLE I. Actual Cost of Standard Items of Operation—1904-05 to 1924-25—and Per Cent on 1913-14 as a Base

Year	Cost of Operation	Per Cent or Index on 1913-14 as Base
1904-05	$ 71,465	81.26
1905-06	71,040	80.77
1906-07	73,287	83.33
1907-08	78,790	89.59
1908-09	82,604	93.92
1909-10	82,915	94.28
1910-11	83,825	95.31
1911-12	85,646	97.38
1912-13	85,416	97.12
1913-14	87,950	100.00
1914-15	91,900	104.49
1915-16	95,365	108.43
1916-17	93,760	106.61
1917-18	118,960	135.26
1918-19	120,077	136.34
1919-20	124,638	141.53
1920-21	152,693	173.42
1921-22	150,319	170.72
1922-23	149,626	170.01
1923-24	150,360	170.77
1924-25	155,689	176.83

TABLE II. Comparison of Trend in Operating Costs With Living Costs, Together with a Comparison of the Value of the Operation Dollar with the Value of the Cost of Living Dollar 1905-1925

Year	Per Cent or Index Smoothed	Cost of Living	Operation Dollar	Living Dollar
1904-05	81.1	76	1.23	1.32
1905-06	81.8	77	1.22	1.32
1906-07	84.5	79	1.18	1.27
1907-08	88.9	82	1.12	1.22
1908-09	92.8	84	1.08	1.19
1909-10	94.5	89	1.06	1.12
1910-11	95.6	93	1.05	1.07
1911-12	96.6	92	1.04	1.09
1912-13	98.2	98	1.02	1.02
1913-14	100.5	100	1.00	1.00
1914-15	104.3	103	.96	.97
1915-16	106.5	105	.94	.95
1916-17	116.8	118	.84	.85
1917-18	126.1	142	.79	.70
1918-19	137.7	174	.73	.57
1919-20	150.5	199	.66	.50
1920-21	161.9	200	.62	.50
1921-22	171.4	174	.58	.57
1922-23	170.5	169	.59	.59
1923-24	172.5	173	.58	.58
1924-25	174.8	170	.57	.59

Both the relatively narrow range of fluctuation and the lag of operating costs as compared with living costs are in evidence in Table II. This is probably in accordance with the usual conditions in expenditures by a public corporation whose inertia usually modifies its variations.

The index of plant operation cost was above the index of living cost in 1905, it was much below in 1920-21, and slightly above again in 1924-25. Similarly the plant operation dollar was worth $1.23 in 1904-05 to $1.32 for the general dollar; it was worth $0.62 in 1920-21 to $0.50 for the cost of living dollar, and $0.57 as compared with $0.59 for the cost of living dollar in 1924-25. The index of living costs has fallen for the past four years, while the index of school plant operation cost still tends upward.

The smaller variation and the lag of plant operation costs, as compared with living costs, is shown clearly in Chart I. While the curve of cost of plant operation rises rapidly, it does not show any such peak as living costs in 1919-20-21, nor has it fallen back as the living cost curve has done since 1921.

ANNUAL SCHOOL BUILDING REPAIRS

The Plan Used in Philadelphia

It has been said that proper upkeep and timely repair of a house is the mark of a prudent home owner. The principle involved is not unlike that in the old proverb which says that "a stitch in time saves nine." Careful maintenance and repair of school buildings is as much a sign of prudence and wisdom on the part of a board of education as it is on the part of a home owner. Every school board has learned that continued attention to maintenance and repair is the best means of keeping buildings in efficient shape and of obviating extended and expensive reconstruction.

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High School Science Laboratories

A. C. Monahan, Formerly U. S. Bureau of Education

A recent study of United States Bureau of Education statistics shows that in 1895, approximately 32 pupils out of every hundred attending public high schools were enrolled in science classes; by 1900, the proportion had grown to 56 out of every hundred, and in 1922 there were 63 out of each hundred in science classes. The sciences included are all of the common ones in which high school courses were offered: physics, chemistry, botany, zoology, biology, astronomy, geology, physical geography, general science and agriculture. They do not include domestic science; nor do they include physiology, a subject required by law twenty to thirty years ago in many states for all pupils.

There is a noteworthy change in the science subjects taught today in secondary schools from those of three decades ago when sciences were just becoming general as high school subjects; physics, chemistry, biology and "general science" are the science subjects most common today. Next comes hygiene and sanitation, and in certain schools, agriculture. Biology has replaced very largely the old botany and zoology courses. "General science" has replaced physical geography and serves as a general introductory course to train pupils in science observation and to bring them in touch with their environment. It also gives them elementary science methods and a scientific approach, of value to them in the more advanced courses in later years. Physiology has practically dropped out of the school curriculum, being replaced by more practical subject, hygiene and sanitation. For astronomy and geology there is now practically no demand.

This change in the science subjects has been responsible in part for the almost universal installations of laboratories in secondary schools. The change is also due partly to the greater interest which pupils seem to have in the subjects now in the course of the system. The change, in turn, is due to the fact that these subjects are laboratory subjects, and through the laboratory more efficient teaching has resulted. In other words, the laboratory and laboratory methods have proved so effective in educational work that the laboratory sciences have prevailed over those that are textbook sciences and the field-study courses.

Thirty years ago, science laboratories were just becoming common in high schools and academies: laboratories for physics and chemistry were the first as a rule. Now, no secondary school is complete without its laboratories. Junior high schools have laboratories as well, and even well planned and well equipped elementary schools have special laboratories for elementary science, nature study and geography. The laboratory courses have proved so popular and efficient in their results that teachers of other subjects have attempted to create "laboratory" courses in their subjects and we find courses in history, literature, mathematics and language using what has been designated as the "laboratory method." This may be termed the achievement of the "laboratory idea."

The One-Science-Teacher-High-School

Between 80 and 85 per cent of the high schools and academies in the United States are one-science-teacher schools. Two or more teachers may actually teach science classes, but the total number of hours in science work is not more than could be taken care of by a single instructor.

A recent study of this subject shows that practically all of these one-science-teacher schools have courses in at least two sciences, sometimes in three, and in a limited number of schools even more than three. Physics and chemistry are the most common, with biology, general science and agriculture coming next. These small schools, as well as the larger ones, follow the laboratory method with laboratory work nearly as complete as in the larger schools. In fact, it is now quite rare to find a school teaching sciences, which does not follow a standardized course. Otherwise, they would not be recognized by state departments of education, state colleges and other accrediting agencies. In approximately thirty states, the state departments of education have prepared minimum lists of equipment with which the laboratories must be provided if their courses are to be approved. Certain national standardizing agencies also have such lists.

One difficulty in high school science teaching found particularly by medium and small schools is the providing of laboratories for the various sciences without incurring too great an expense. They are, therefore, more and more coming to use one room as a laboratory for all science subjects and in many cases using the same room for other subjects when not in use for the sciences. This movement has resulted in the development of special laboratory furniture that may be used for physics, chemistry, biology and general science, and also used as desks when the room is used as a recitation room for academic subjects. In the usual layout, ten years ago before the great rise in the cost of building, in a high school to accommodate from 200 to 500 pupils, provision was made for a physics laboratory, a separate chemistry laboratory, and a lecture room to be used for both subjects. One instructor in schools of this range has charge of these two subjects and the three rooms. This means that usually but one of the three rooms was in use at any one time, the other two were idle. Each individual room in the ordinary high school building cost to build today from twelve to fifteen thousand dollars. Idle rooms are, therefore, an economic waste.

A similar economic waste is found in city high schools. In a recent study made by Dr. Paul C. Packer in New York City, he finds that in eight cosmopolitan high schools, the physics laboratories were used approximately 30 per cent of the school day, chemistry laboratories, 40 per cent, and biological science laboratories, 56 per cent.

Economy in Laboratory Space

Under the newer plan being more extensively used each year, one room is used in such schools instead of three, releasing two rooms for other work, or permitting the erection of a smaller building for the same number of pupils. Also a considerable number of old high schools throughout the country are adopting the newer plan, releasing rooms formerly devoted to science laboratories, to other subjects, thus helping take care of the increased enrollment in the schools. In larger schools where separate teachers are employed for various sciences, lecture rooms are being omitted and the laboratories fitted with this special furniture so that they may be used for lectures, demonstrations, recitations, and other exercises in the science classes. Lincoln School, Teachers College, New York City, is a good example of this.

The special furniture for this dual purpose differs considerably from the old forms of chemistry and physics desks. The desks are three inches lower than the older one, and three inches higher than the ordinary library table. Experience shows that this height is satisfactory for a work bench in laboratory experiments, and also it is satisfactory as a recitation room table when used with a special chair two inches higher than the ordinary chair. Such a chair would be uncomfortable to use for a long period, but is perfectly satisfactory for the ordinary school recitation period when a foot rest is used. A special arrangement of cupboards under the desk is necessary of course so that space for the knees is provided when pupils are seated.

Professional Advantages

From the professional standpoint, the room fitted with special furniture which may be used for laboratory exercises and for a recitation room has very much to commend it. Actual tests carried out during the past five years show that the required courses of study are much more easily covered. This is due primarily to the saving of time usually lost in the old method because of the difficulty in arranging laboratory exercises so that pupils are completely occupied for the entire period and are through exactly at the end of the period. With this combination room, the five or ten minutes so often wasted at the end of the laboratory period is utilized; pupils pull out their chairs and have a comfortable seat and desk on which to make their notes,

(Concluded on Page 170)

VIEW OF THE SCIENCE CLASS IN THE CHEMISTRY LABORATORY AT THE LINCOLN SCHOOL OF TEACHERS COLLEGE, NEW YORK CITY.

The Administration of School Building Programs

II - Types of Organization Established for the Administration of School Building Programs

Osman R. Hull, Ph.D., Assistant Professor of Education, University of Southern California, Los Angeles

SECOND ARTICLE

It is the purpose of this article to state the basis of classification used in grouping cities according to the type of organization used by them in the administration of their school building programs, and to set forth the distinctive features of the several types.

The method of providing architectural service, and the kind of service rendered by the architect, have been used as a basis of classification. Assistance, direction, supervision, and checks may be provided to supplement the work of the architect, but he is the maker of the plans and specifications and is responsible for composing into a workable unit the recommendations of the engineers on the one hand and the educational requirements of the instructional staff on the other. The importance of architectural service as a basis of classification is indicated by the fact that fully three-fourths of the overhead cost of construction is for this service.

The Five Plans

According to the basis of architectural service, cities group themselves quite readily into five general groups, as follows:

I. Cities in which the architect provides all plans and specifications, inspection and supervision, and is held directly responsible for the completion of his own building.

II. Cities employing a supervising architect who supplies preliminary plans and standard specifications to architects employed on commission for individual buildings; the project architect is held responsible, under the general direction of the supervising architect, for the completion of his building.

III. Cities employing a supervising architect as the head of a building department, the head architect directing the work of project architects employed on a commission basis to prepare plans and specifications for individual buildings. Under this plan the supervision of construction and inspection is taken over by the department, the project architect being called in only for consultation.

IV. Cities maintaining an architectural and engineering staff on a full-time basis who prepare all plans and specifications within the department and supervise all construction.

V. Cities that enter into a contract with the local architects who organize as an association to administer school building construction. Project architects are assigned by the association to individual buildings and are under the direction of the association.

The Separate Architect for Each Building

Administrative Organization, Type I. A city conducting its building program under this type of organization employs one or more architects, usually one for each building. The outstanding feature of this type is that the architect is held responsible for developing all plans and specifications. He acts with the board of education and business manager in the letting and payment of contracts, supervises the construction of his building, and finally approves the completed structure for official acceptance by the board. Under this plan the architect is usually paid a flat fee or commission, which covers all expense to the board for architectural service, including general plans and specifications, heating, lighting, ventilating and structural engineering service, inspection and supervision. Under this plan, boards often provide an additional inspector at their own expense. Also, expert educational service may be provided to establish a building program and to work out the educational details, provide preliminary studies and check the completed plans. This service is often included in the contract with the architect, the fee being paid out of his commission. In some instances the educational service and business management is provided by members of the regular school department.

In the city of Grand Rapids, Michigan, the superintendent of schools is responsible for keeping in touch with the educational needs of the city. He recommends to the school board from time to time the advisability of purchasing new sites preparatory to taking care of the growth of the city. When the approximate location is determined upon, the matter is left with the sites committee, who with the business manager, proceed to get options. The superintendent also recommends the erection of new buildings, their size, and type. When the building program is approved by the board, the business committee recommends the employment of an architect to work with him in perfecting the preliminary plans. With the approval of the plans by the board the architect is authorized to proceed with the preparation of complete working drawings and specifications. In advertising for bids there are about seven contracts, namely: general, plumbing, heating, electrical, sheet metal, temperature regulation, and clocks and bells. As the work progresses it is under the supervision of the business committee, represented by the business manager and the architect. The architect's commission includes supervision; however, the board employs an inspector on each job who reports to the architect and sends the business manager a copy of his report. All the work is done on a commission basis, passing it around between three or four local firms who do more or less school work.

It will be noted that in Grand Rapids the architect is responsible for the building construction from the time the preliminary plans are drawn until the completion of the building. The reader is referred to the description of the Denver plan in the article by the writer appearing in the June issue of this journal as another instance of organization under Type I.

The Supervising Architect

Administrative Organization, Type II, or the supervising architect plan of organization, is used by those cities who feel that they should give a large number of architects the opportunity of planning their school buildings, either in an attempt to distribute their patronage to local firms, or to avail themselves of the combined contributions of a large competitive group, and at the same time provide for a continuity of standards in plans and specifications, letting of contracts and other administrative procedure through the employment of a supervising architect. This architect may be one of established ability in school building planning, who acts as the immediate agent of the board of education.

The supervising architect is in a position to develop, in consultation with the superintendent of schools and his staff, standard room layouts and other details directly affecting the educational program. He becomes at once responsible for supplying preliminary layouts and standard requirements to the project architect who is employed to plan a specific building. Under this type of organization the project architect is responsible for the supervision of construction of his own building, subject to the check of the supervising architect.

The Trenton and Atlanta Plans

The plan of organization used by the city of Trenton, New Jersey, for architectural service and the supervision of construction provides for (1) a supervising and consulting architect who is a school specialist, and (2) an associate architect selected from the architects practicing in the city.

The supervising and consulting architect receives two-thirds of the fees paid. He employs at his own expense all engineering service for the building, and is responsible for the preparation of the original plans and specifications. In addition to this, he exercises general supervision over the construction of the building and approves all vouchers and payments.

The associate architect receives one-third of the fees paid. He prepares all details and gives immediate supervision to the construction of the building. The board of education employs a clerk of the works who is the actual building inspector of the particular building erected.

The description of the plan used by Atlanta, Georgia, in the June number of this journal, shows the supervising architect type of organization, but with the project architect responsible for a larger proportion of the work for which he receives 4.5 per cent, the supervising architect receiving one per cent. It will be noted that this plan may also provide for the employment of expert educational service, the fee paid by Atlanta being one-half of one per cent. By the use of this plan cities which do not have a continuous building program secure the advantages of departmental control, without building up an expensive organization for a short program.

A Combination Plan

Administrative Organization, Type III. Cities in this group have established a building department under the direction of a salaried full-time supervising architect. This department is sometimes a division or bureau under the business manager. Project architects are employed on a commission basis as under Type II, receive preliminary layouts and suggestions from the supervising or department architect, but are relieved of all responsibility of inspection and supervision of construction. From the time that the plans and specifications have been approved the building department provides the inspection and supervision, approves vouchers for payment, and performs all other architectural service. The project architect may on his own account inspect the construction and confer with the supervising architect or be called into conference by him.

This plan of organization is adapted to cities that have a continuous building program of sufficient magnitude to keep the department personnel profitably employed. It provides an opportunity for the continuous study of local building requirements and school housing standards, with the development of a set of modern educational standards that may be used by all the building architects and improved from time to time as changing conditions may require. The city has the advantage of competitive design and planning, and of supervision by a corps of trained inspectors and engineers familiar with the specifications and standards of the building department. Boards of education using this plan feel that it is more economical and safer to handle the supervision through their own department than to depend on a large number of architects, some of whom cannot be held responsible for adequate supervision.

The value of continuous study of the building problem is recognized in the report of a special committee of the board of education of Cincinnati, Ohio, in which they recommend:

"That the system of an architectural division be not adopted. All three of the cities (Cleveland, Toledo, and Columbus) using this system agree that its greatest value is in continuous study. This value can be realized through the employment of a competent person on full time,

whose duties shall be confined to continuous studies and to the planning of architectural changes in old buildings. The information secured by him should be placed at the disposal of the employed architect, through his serving as a consultant on all new construction. There should be no new division, but such person should be attached to our present business department."[1]

The city of Los Angeles, California, has a building department organized as an architectural bureau of the business department. An architect is employed as the superintendent of construction of the building department, and it is his duty to prepare schedules of rooms, standard room layouts, and specifications in consultation with the superintendent of schools and instructional staff. Also the principal of the school is consulted frequently to avoid changes during construction. Five contracts are usually let for general construction, plumbing, heating, painting and the electric work.

After the contracts are awarded the supervision is turned over to the building department. In this work the superintendent of construction is assisted by two head building inspectors and as many assistant building inspectors as the work requires. The work of the department is kept at an even load by bringing in new jobs between the peak loads of maintenance work. The department force of draftsmen and engineers handle all small awkward jobs that would not be understood by an outside architect.

The School Building Department Plan

Administrative Organization, Type IV. Type IV represents a complete organization of architects, engineers, draftsmen, inspectors and assistants employed on a full-time basis by the board of education and performing all services of design and supervision of construction. The entire expense of salaries, offices, drafting rooms, supplies and clerical assistance, and transportation is paid by the board and constitutes a part of the regular school budget. As in Type III this organization may be a separate and independent department of the board of education, a department under the general supervision of the superintendent of instruction, or a bureau of the business department. Acting independently it may be a strong and dominating force because of the large amount of money involved in school building contracts, and the instruction department may have little influence in shaping the building policies. On the other hand, in those instances where the plans and building standards must be approved by the superintendent as to their educational provisions there may be built up standard layouts and specifications of a high order and particularly adapted to the educational program. The Philadelphia plan, as described in the June issue of this journal, provides for approval of all plans by the superintendent of instruction.

The new administrative code of the city of Cleveland, Ohio, adopted June 1, 1925, provides for a reorganization of their school housing department. A few of the provisions of the code are as follows:

"Sec. 161. There is hereby established a division of housing, to be administered and controlled by a commissioner on housing, subject to the supervision and direction of the director (business manager) of schools. There shall be in the division of housing, in addition to the commissioner, such architects, engineers, inspectors, foremen, draftsmen, custodians, and other employees as may be necessary to perform the work assigned to the division.

"Sec. 163. There shall be in the division of housing a bureau of architecture and construction, which through the commissioner of housing shall function in the planning and construction of buildings.

[1]"Report of Special Committee on Inspection of Schools and Systems in Cleveland, Toledo, and Columbus." Cincinnati, Ohio, Board of Education, Official Proceedings, Dec. 8, 1924.

"Sec. 169. All plans and specifications for new buildings and their equipment * * * shall be prepared in the division of housing."[2]

An important provision is made placing the initiative with the superintendent in determining the school housing needs of the district, in:

"Sec. 276. On or before January first of each year the superintendent shall submit to the board a report setting forth the distribution of the pupils in the Cleveland schools among the several buildings and among the several communities or sections of the school district; the anticipated growth of attendance during the next ensuing three years; the anticipated needs for new housing capacity in the several communities or sections of the district during such period, arranged in order of time and urgency; the approximate location of sites desirable or expedient to be acquired for buildings anticipated to be needed; the grade, location and capacity of each new building or of each addition to an existing building, the construction of which should be undertaken during each of the next ensuing three years. Such report shall be supported by such detailed data as may be available bearing upon the growth and distribution of school population."[3]

Provision is also made that the superintendent and his staff shall be consulted in the preparation of all plans and standards. All matters of a technical nature are left to the administrative staff for decision, the board reserving to itself only matters of policy, and the right of approval. It is provided that building standards shall be established, and that those standards be taken into consideration by the division of school housing.

The selection of the personnel, the development of an organization, and the placing of responsibility in the division of school housing just presented, takes time and careful regulation and can be successfully accomplished only in a city with a large and continuous building program.

The Cleveland organization reveals little authority in the approval of plans by the superintendent of schools. The final authority rests with the director, who is in charge of the bureau of architecture.

[2]"Record of Proceedings," Cleveland, Ohio. Board of Education, June 1, 1925. P. 518.
[3]"Record of Proceedings," Cleveland, Ohio. Board of Education, June 1, 1925. P. 522.

(Continued on Page 170)

A STUDY OF SALARIES OF ADMINISTRATIVE OFFICERS IN 1925-1926

The research division of the Department of Superintendence of the N. E. A. has recently completed a study of the salaries paid administrative officers in city school systems during the school year 1925-1926. The tabulation is similar to that for 1924-1925 and indicates the increases in salaries paid to certain school officers and for comparative purposes the increase in the cost of living. In general it is indicated that the percentage of increase in salary equals the increase in the cost of living.

The table is divided into two parts, one showing the salaries paid in cities over 100,000 population in 1920, and one showing the salaries paid in cities of from 30,000 to 100,000 population. In the first group, the superintendent was paid $5,000 in 1913-1914, and $9,250 in 1925-1926; the assistant superintendent was paid $3,200 and $5,500 respectively; the kindergarten and primary supervisor were paid $1,625 and $3,250 respectively; the supervisors of drawing were paid $1,800 and $3,300 respectively; the supervisors of music were paid $1,770 and $3,325 respectively; the supervisor of physical training $1,650 and $3,555 respectively.

In the second group, the superintendent was paid $3,000 in 1913-1914 and $6,000 in 1925-1926; the assistant superintendent was paid $1,800 and $4,000 respectively; the kindergarten and primary supervisors $800 and $2,600 respectively; the supervisors of drawing $1,100 and $2,313 respectively; the supervisors of music $1,100 and $2,600 respectively; the supervisors of physical training $1,100 and $2,800 respectively.

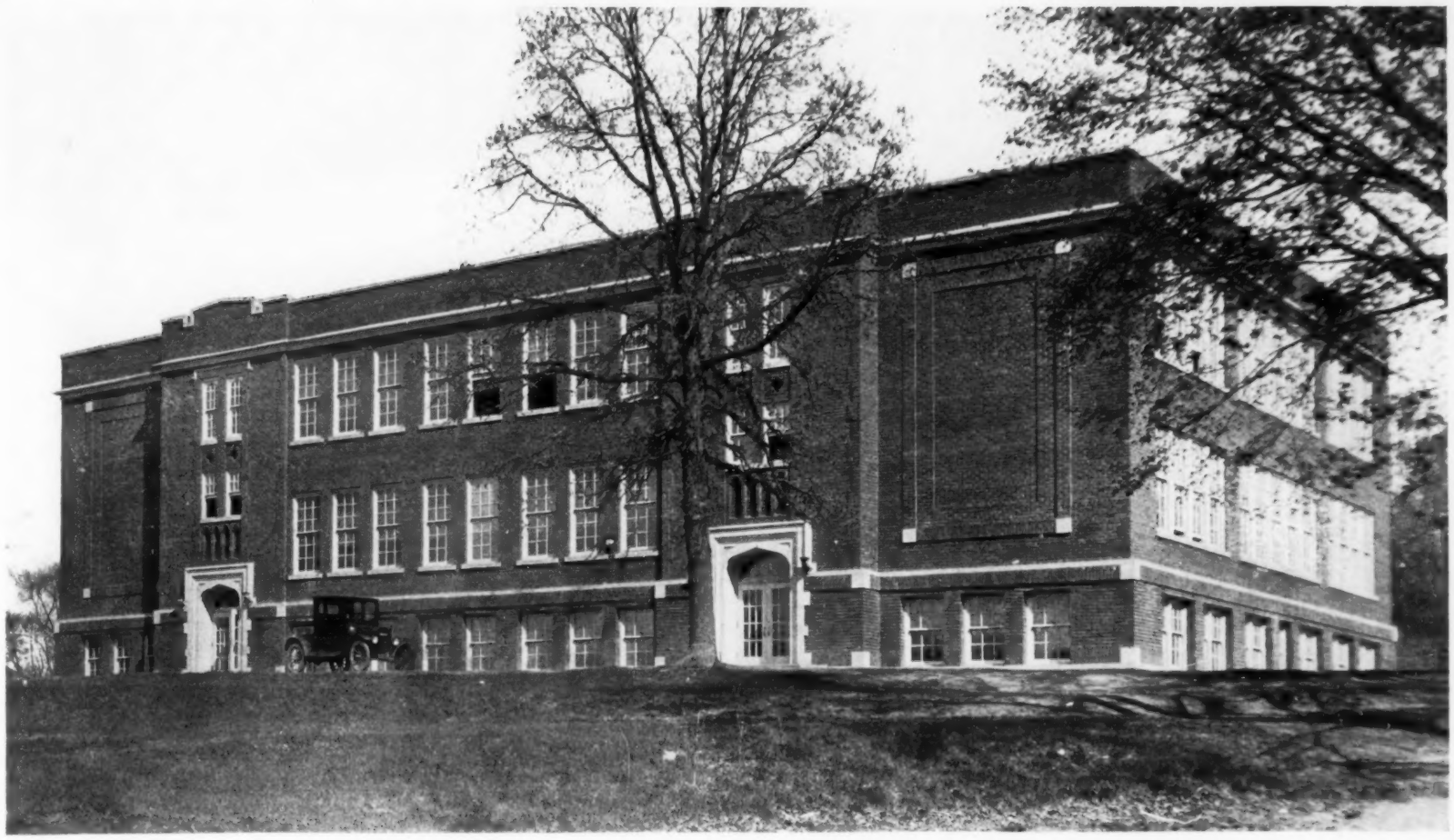
The table shows that the salaries paid school officials generally has not increased as rapidly as wage rates. If the tendencies shown continue to exist, it means that a less capable quality of human material will be commanded by the salaries paid the leaders of the profession. It is suggested that school boards may well pause and ask whether the time has not come to take heed lest the schools of the nation be deprived of leaders of first-rate ability. It is revealed that some school officials, poorly compensated before the war, have in the post-war period failed to receive increases in salary similar to those granted in other sections of the country.

The following table shows the salaries paid to superintendents of schools, secretaries, business managers, and superintendents of buildings in the several cities listed:

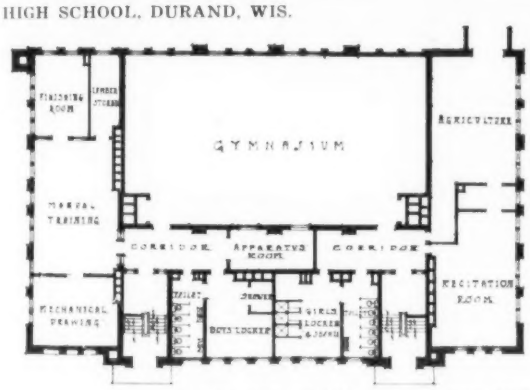
Distribution of Salaries Paid Administrative Officers in 1925-1926

Cities	Superintendent of Schools	Secretary of Board	Bus. Mgr.	Superintendent Buildings and Grounds
U. S. Median	$9,000	$4,310	$5,000	$3,800
Birmingham	7,500	2,400	4,500	2,800
Los Angeles	10,000	5,800	8,000	6,000
Oakland	11,000	5,400	5,500	3,900
San Francisco	10,000	3,000	.....[1]	3,900
Denver	10,000	4,000	6,300	.....
Bridgeport	10,000	.....	4,500	3,300
New Haven	7,000	4,450	3,400	.....
Wilmington	6,000	1,700	2,800	2,100
Washington, D. C.	9,000	3,000	.....[2]	3,000
Atlanta	7,500	1,800	3,000	2,400
Chicago	15,000	6,000	12,000[3]	.....[8]
Indianapolis	9,000	4,000	5,000	5,000
Des Moines	10,000	.....[4]	5,600[5]	3,700
Kansas City, Kans.	6,500	4,500	.....	2,000
Louisville	5,000	5,000	5,000[3]	.....[8]
New Orleans	8,000	.....[5]	.....	4,200
Baltimore	10,000	3,000	5,000	2,500
Boston	12,000	5,496[6]	7,000	4,500
Cambridge	7,500	1,482*	4,500	3,000
Fall River	7,500	.....	.....	4,500
New Bedford	6,500	.....	.....	3,200
Springfield	9,000	2,100[6]	.....	.....
Worcester	7,500	.....[4]	5,100[5]	.....
Detroit	15,000	.....[4]	6,600[9]	5,000
Grand Rapids	9,000	.....[4]	6,000[5]	.....
Minneapolis	10,000	.....	.....[7]	3,900
St. Paul	5,000	.....	3,300	2,500
St. Louis	11,000	7,800	.....	9,800
Omaha	10,000	3,600	.....	4,800
Camden	7,000	.....	.....	.....
Jersey City	10,500	5,500	.....	3,500
Newark	10,000	7,000	9,000	5,400
Paterson	8,000	.....[4]	4,600[5]	.....
Trenton	10,000	4,000	.....	4,000
Albany	7,500	.....	.....	3,500
Buffalo	11,000	5,000	6,260	.....
New York	20,000	9,000	.....	2,500
Rochester	10,000	4,500	5,000	5,500
Syracuse	6,000	2,800	.....	2,800
Yonkers	7,000	5,000	.....	2,900
Akron	8,000	2,600	.....	2,200
Cincinnati	10,000	4,100	5,000	.....
Cleveland	12,000	8,625	10,025	6,500
Columbus	7,500	4,500	.....	3,000
Dayton	10,000	4,320	.....	5,200
Toledo	.....	3,500	.....	.....[8]
Youngstown	10,000	3,000	5,000[3]	.....
Portland, Ore.	7,500	.....	.....	4,500
Philadelphia	12,000	.....[4]	10,000[5]	8,000
Pittsburgh	12,000	8,000	.....	7,000
Reading	7,000	.....	3,750	4,250
Scranton	6,500	4,300	.....	4,500
Providence	7,500	.....[4]	5,500[5]	.....[8]
Memphis	10,000	3,600	3,000	2,700
Nashville	4,800	.....	4,200	.....
Dallas	10,000	5,000	.....	3,000
Fort Worth	6,000	.....	3,250	.....
Houston	10,000	.....	7,500	.....
Salt Lake City	6,500	.....[4]	4,800[5]	4,200
Norfolk	.....	2,100	.....	2,850
Richmond	7,500	4,500[9]	.....[9]	.....[8]
Seattle	9,500	3,800	3,900[10]	3,600
Spokane	6,500	.....[4]	3,500[5]	3,300
Milwaukee	10,000	8,000	.....	4,500

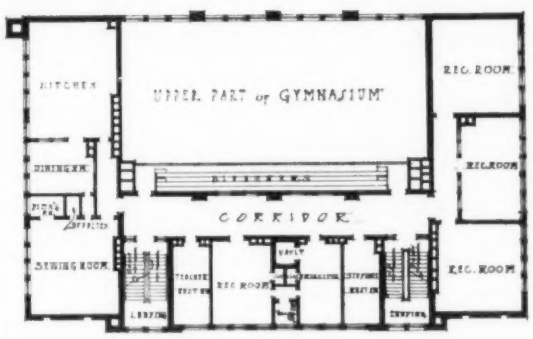
[1]One deputy superintendent at salary of $4,800 acts as business manager.
[2]One assistant superintendent acts as business manager; two assistant superintendents act as directors of research, tests and measurements, all three of these receive a salary of $4,200 each.
[3]Business manager also acts as superintendent of buildings and grounds.
[4]Business manager also acts as secretary of the board.
[5]One of these assistant superintendents also acts as secretary of the board at a salary of $5,000.
[6]The secretary of the board also acts as secretary to the superintendent.
[7]One of the assistant superintendents also acts as business manager with a salary of $6,000.
[8]One of these assistant superintendents acts as superintendent of buildings and grounds, and another acts as director of research, tests and measurements.
[9]The secretary of the board also acts as business manager, superintendent of buildings and grounds, and attendance officer.
[10]Comptroller.
*This is the maximum salary paid according to a regular schedule. It may not be the actual salary received during 1925-1926.



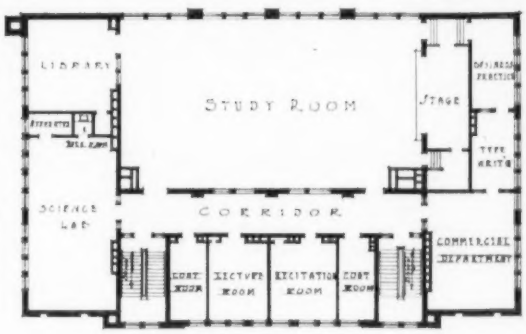
HIGH SCHOOL, DURAND, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



BASEMENT PLAN.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

HIGH SCHOOL, DURAND, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.

SOME RECENT WISCONSIN SCHOOLS

The Durand High School

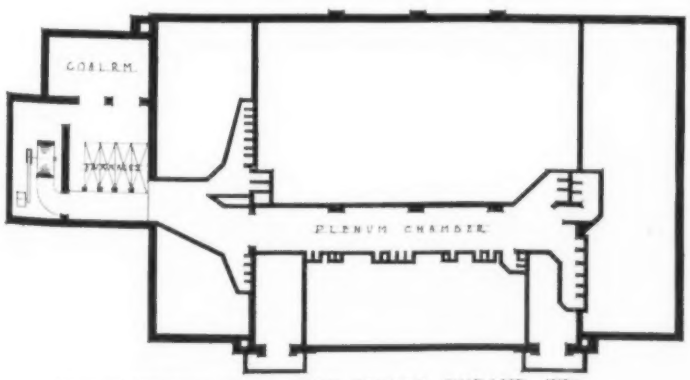
The high school at Durand, Wis., is located in a small community of 1,517 population. In preparing the plans for the structure, an effort was made to take care of the present enrollment, and to give due consideration to future growth and expansion of the school plant.

After a careful survey of the local conditions and a number of conferences with the board of education and the superintendent, a plan was adopted which seemed to fulfill all the educational requirements and which kept the cost within the limit of $80,000.

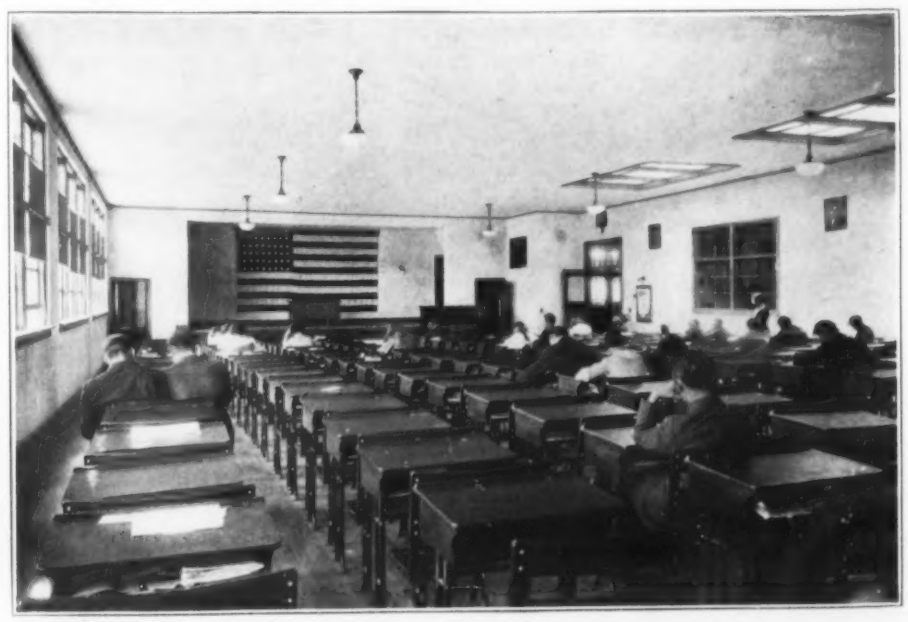
The building is built in the Collegiate Gothic style of architecture and is located on a site of ten acres, providing space in the rear for an athletic field and community playground. It has two stories and a basement and is 125 feet by 73 feet in size. The exterior walls are of brick, with load-bearing Mason City tile; the bearing walls and floors are of concrete and steel construction; corridor floors and staircases are of terrazzo, and maple floors are found in the classrooms.

The building consists of twelve classrooms, and has in addition, various shops and workrooms, a library, an auditorium and gymnasium, and administrative offices. The auditorium has a stage seating 400 persons and is equipped with dressing rooms and a motion picture booth. The gymnasium is 73 feet by 48 feet and is provided with bleachers and showers.

The finish throughout the building is of birch and slate blackboards are found in all classrooms. The building is provided with a separate heating plant and a complete electrical equipment including telephones, master clocks and gongs.

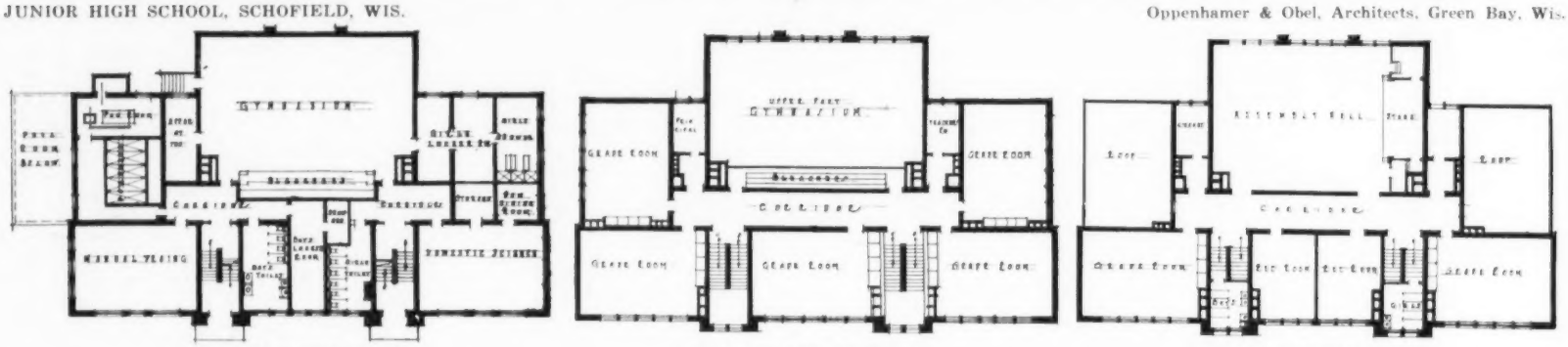


SUB BASEMENT PLAN, HIGH SCHOOL, DURAND, WIS.



ASSEMBLY ROOM (LOOKING AT STAGE), HIGH SCHOOL, DURAND, WIS.

JUNIOR HIGH SCHOOL, SCHOFIELD, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



GROUND FLOOR PLAN. FIRST FLOOR PLAN. SECOND FLOOR PLAN.

JUNIOR HIGH SCHOOL, SCHOFIELD, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.

The building, which was erected during the "peak" period of construction costs, was built at a total cost of $77,294. The cost of the heating and ventilating system was $8,000; of the plumbing, $4,569; of the electrical equipment, $2,500, and of the furniture $6,500.

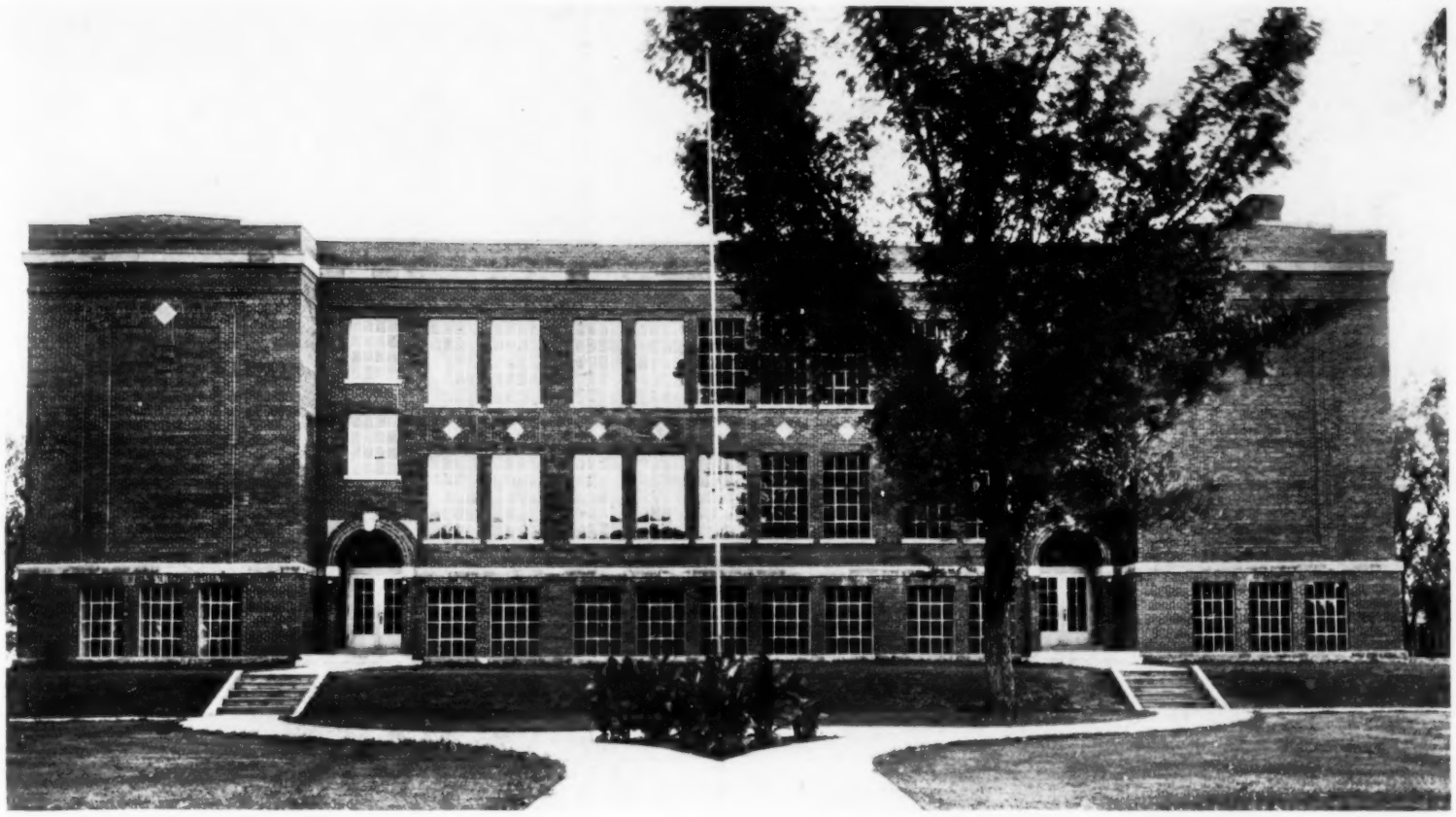
It was planned and erected under the supervision of Architects Oppenhamer and Obel, Green Bay, Wis.

The Kimberly School

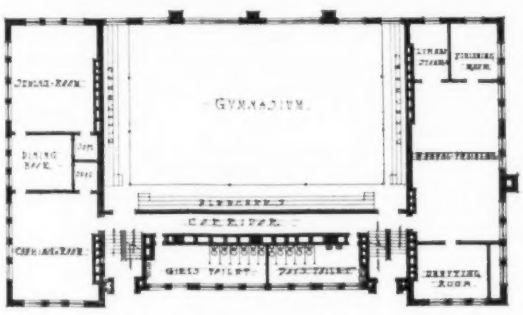
The intermediate school at Kimberly, Wis., is of fireproof construction and cost 25 cents per cubic foot. It was erected at a total cost of $80,225.

The building was planned and erected under Architects Oppenhamer and Obel, Green Bay, Wis.

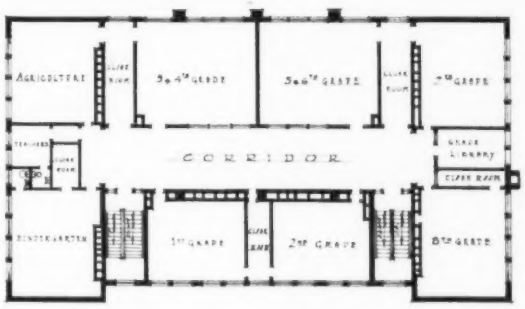
INTERMEDIATE SCHOOL, KIMBERLY, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



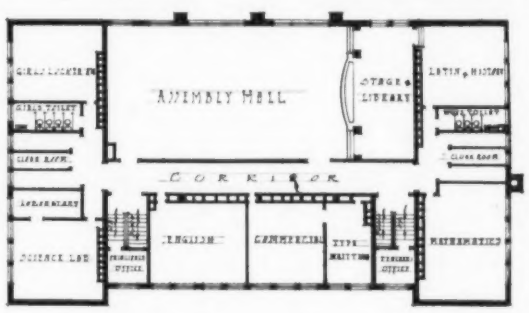
HIGH SCHOOL, WHITEHALL, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



BASEMENT PLAN.

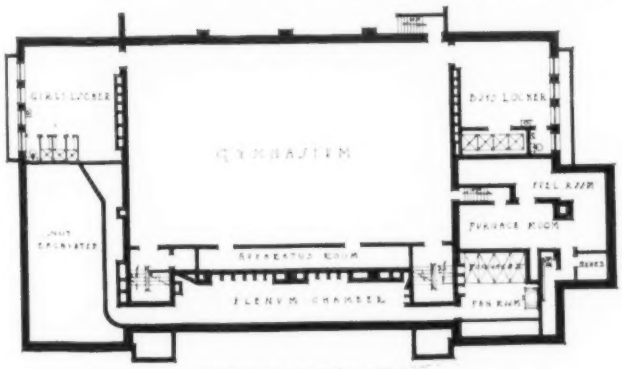


FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

HIGH SCHOOL, WHITEHALL, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



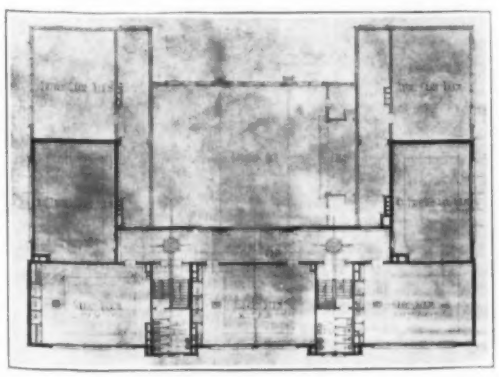
GROUND FLOOR PLAN.

The Schofield Junior High School

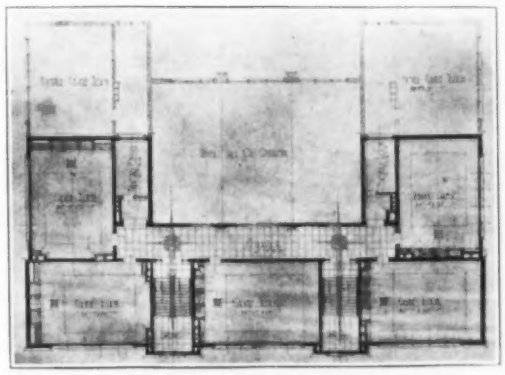
The junior high school at Schofield, Wis., has two stories and a basement and contains seven classrooms, and auditorium and a gymnasium. It was erected at a total cost of $54,208.

The building was planned and erected under the supervision of Architects Oppenhamer and Obel, Green Bay, Wis.

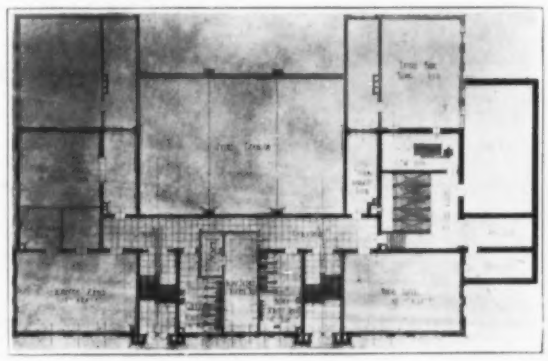
HIGH SCHOOL, WHITEHALL, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

INTERMEDIATE SCHOOL, KIMBERLY, WIS. Oppenhamer & Obel, Architects, Green Bay, Wis.

FREMONT ELEMENTARY SCHOOL, KLAMATH FALLS, ORE.

THE KLAMATH FALLS SCHOOL

J. P. Wells, Superintendent of Schools

The Fremont elementary school at Klamath Falls, Ore., was erected for a town of slightly more than two thousand population. The building, which is named in honor of John C. Fremont, an early pioneer of the community, was dedicated in March, 1926, with a program in the auditorium of the school. Mr. W. F. Woodward, chairman of the school board of Portland, delivered the dedicatory address.

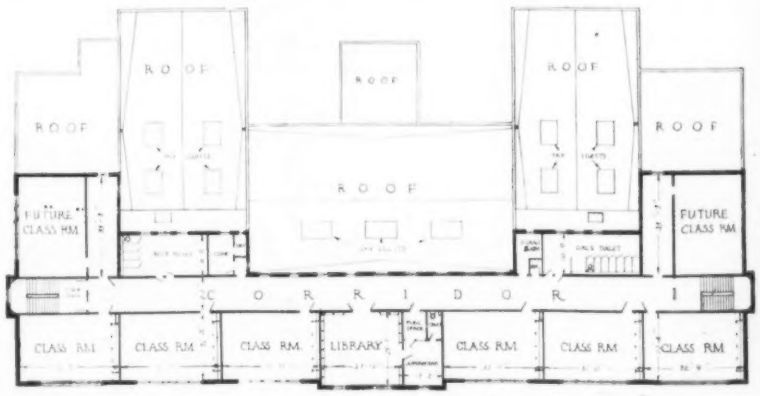
The building is of fireproof construction, with exterior walls of brick and concrete, and an entrance of cast stone. The entire first floor is of concrete, with battleship linoleum covering the classrooms. The stairways are of concrete and the corridors on the upper floors are of magnesite composition.

The building contains fourteen classrooms, in addition to a home economics laboratory, manual training shops, a library, an auditorium, two gymnasiums, a medical inspection room, and a teachers' restroom, together with showers for boys and girls, and offices for the superintendent and principal. The classrooms are 22 feet by 33 feet and accommodate 35 pupils each. Each classroom has ample natural lighting and is provided with adjustable window shades. Wardrobes with disappearing doors are provided in each classroom, together with bookcases and teachers' built-in closets. Each classroom has natural slate blackboards, with a border of corkboard for the display of school exhibits and classroom material.

(Concluded on Page 170)

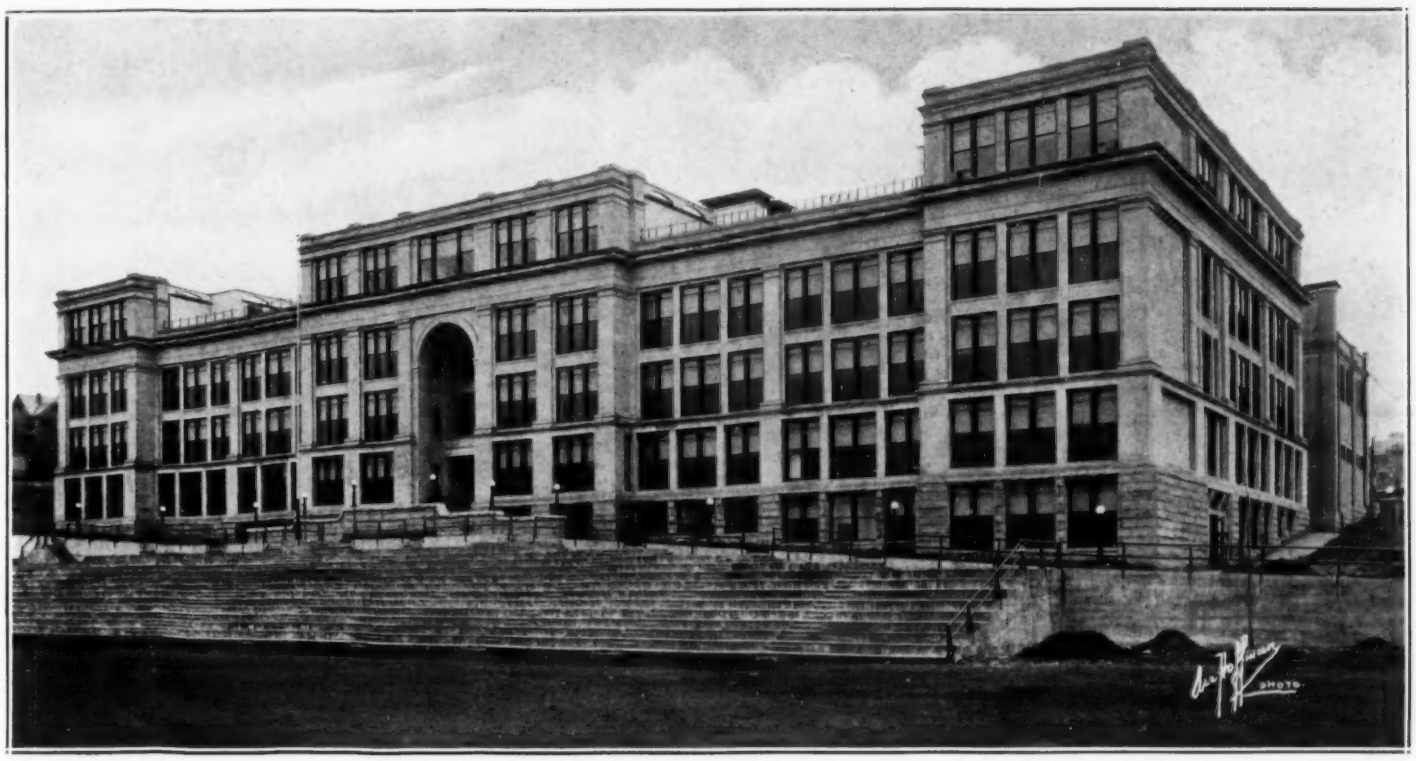
AUDITORIUM, FREMONT ELEMENTARY SCHOOL, KLAMATH FALLS, ORE.

FIRST FLOOR PLAN



SECOND FLOOR PLAN

FREMONT ELEMENTARY SCHOOL, KLAMATH FALLS, ORE.



G. A. R. MEMORIAL HIGH SCHOOL, WILKES-BARRE, PA.—STADIUM AND ATHLETIC FIELD IN THE FOREGROUND. Robert Ireland, Architect.

THE WILKES-BARRE MEMORIAL HIGH SCHOOL

The new G. A. R. high school at Wilkes-Barre, Pa., is a memorial to the veterans of the Civil War and is dedicated to "the welfare of the community". To the minutest detail, the building and grounds have been adapted to the use of the pupil, the benefit of the people, and the advancement of worth while purposes. Standing on high ground the building is a fitting and lasting memorial to the soldiers of 1861-65.

The building is an interesting adaptation of the Tuscan style of architecture. The architectural lines are plain but attractive, and the structure is practically devoid of ornamentation, making it stand forth in all its simple beauty.

The building is set 153 feet back from the street line and has a frontage of 285 feet. It occupies a site of 4.6 acres, which was purchased at a cost of more than $40,000.

The exterior construction is of buff Indiana limestone and gray granite, with pilasters, cornices, and arches in the Tuscan style. The main feature of the front is the high arch over the main entrance. A massive porch leads to the main doors which are of fine bronze. The vestibule and main stairway are of marble, with hand rails and light fixtures of bronze. Botticino marble is used on all the walls, with St. Genevieve golden vein for trimming on the pilasters and stairs.

MEMORIAL TABLET IN THE G. A. R. MEMORIAL HIGH SCHOOL, WILKES-BARRE, PA.

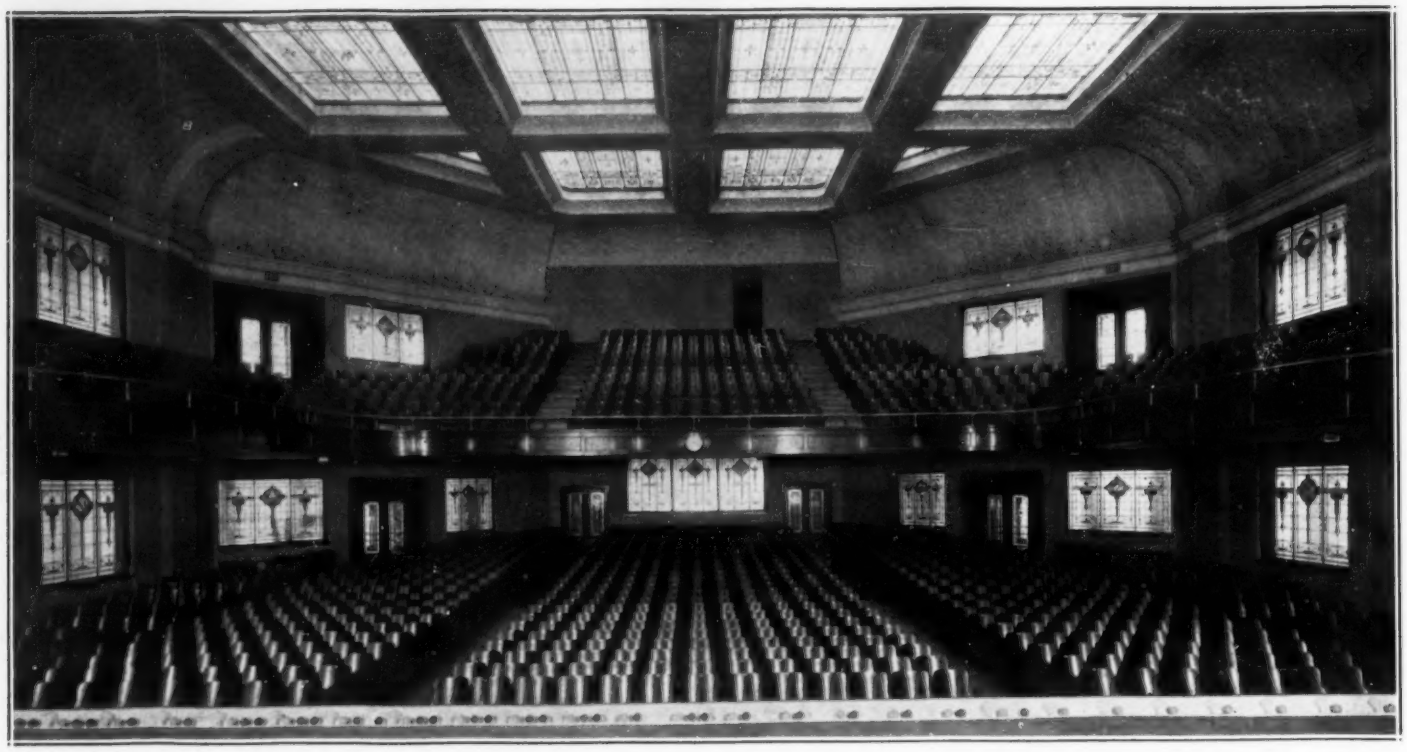
On the first floor at the left, are the principal's office and shops and at the right are the library, the cooking room, and cafeteria. The auditorium immediately adjoining the hall is finished in walnut. Wood paneling is used as a finish for the front of the stage and balcony, and a hand-painted border decoration outlines the proscenium arch. An art-glass skylight with fifteen glass windows forms the ceiling; it depicts the arts and sciences by symbols and admits light to the room. An indirect system of artificial lighting is used.

On the second and third floors are business and academic classrooms. Built-in lockers are found in each of the classrooms, together with special ventilation for fresh air. Large gymnasiums for boys and girls are located on the second floor, with shower, locker, and dressing rooms immediately below. In the girls' room are thirty individual showers and dressing rooms. The fourth floor cares for the science, music, and art departments.

The building is heated with hot or tempered air, without direct radiation in the classrooms. Six large fans force the air to the classrooms and four boilers furnish steam to heat the air. Damper controls are operated by a thermostatic regulating system maintaining seventy degrees at all times.

TYPICAL CLASSROOM.

PRINT SHOP.



AUDITORIUM, G. A. R. MEMORIAL HIGH SCHOOL, WILKES-BARRE, PA. Robert Ireland, Architect.

The construction work on the building was begun in June, 1920, and the corner stone was laid in October, 1922. The building was completed and dedicated in November, 1925, at a total cost of $1,543,083. The cost of the building alone was $1,012,450, that of the heating, plumbing and electricity was $195,694, while the cost of the furniture and equipment was $94,263. The building was erected from plans prepared by School Architect Robert Ireland, and the educational features were worked out by Supt. H. H. Zeiser.

The Boyden High School, Salisbury, North Carolina

G. B. Phillips, Superintendent of Schools

The Boyden high school at Salisbury, N. C., was erected for a community of 13,884 population. The first step toward the erection of the building was taken in 1922 when the school board purchased a site of 21 acres. This was followed by an election in 1924, at which the citizens voted the necessary funds for the building.

With the selection of the site and the voting of funds, the board proceeded to employ Mr. C. G. Sayre as architect of the building, and to select expert educational advisors. During a period of six months the architect and the educational experts worked in close cooperation in the development of the final plans. The latter provided for a plant about twice the size of the unit erected, with provisions for meeting future growth in the school. The contracts for the construction work were awarded in December, 1924, and the building was completed and occupied in February, 1926.

The building is of type B fireproof construction in steel and concrete and has state approved fire towers. The exterior is of buff brick, with terra cotta trimming. The floors throughout are of maple over a concrete base, with the exception of the halls and staircases which are of terrazzo.

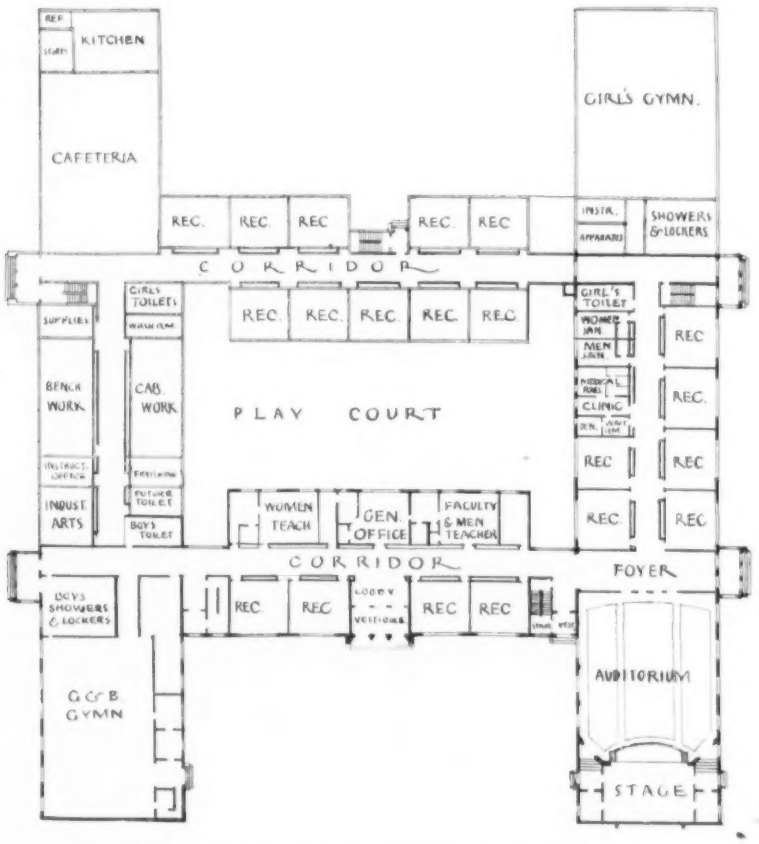
The building has a capacity of one thousand and houses at present a total of 700 students. It has a total of 61 classroom units. The first floor has eleven classrooms, an auditorium, a gymnasium, an administrative unit, a medical unit, and toilets for boys and girls.

The second floor contains fifteen classrooms and a library of five classroom units. The third floor is devoted to laboratories for chemistry, physics, biology and science, to a commercial department, a home economics department and a cafeteria.

The interior finish througout the building is in natural oak and the wall finish is carried out in ivory and cream.

The auditorium and the balcony accommodate 1,000 persons and have ample stage facilities for all forms of school theatricals and entertainments. The gymnasium is 80 feet by 55 feet in size and is provided with shower and locker rooms, and a balcony seating 400 persons. The administrative unit includes space for the general office, and for the offices of the principal and assistant principal, also a work room for the teachers, a book room, and a receiving room. The medical unit offers the latest conveniences for the care of sick and injured pupils. Two janitors' rooms with the necessary equipment are also provided. The commercial department has a five classroom unit affording space for bookkeeping, typewriting and stenography classes. The home economics department has a sewing and a cooking laboratory, and space for additional rooms. The cafeteria accommodates from three hundred to four hundred students daily and is provided with ample store rooms.

The grounds about the building have been planted under the direction of Mr. E. S. Draper, landscape architect, of Charlotte. A large athletic field has been graded and is in regular use.



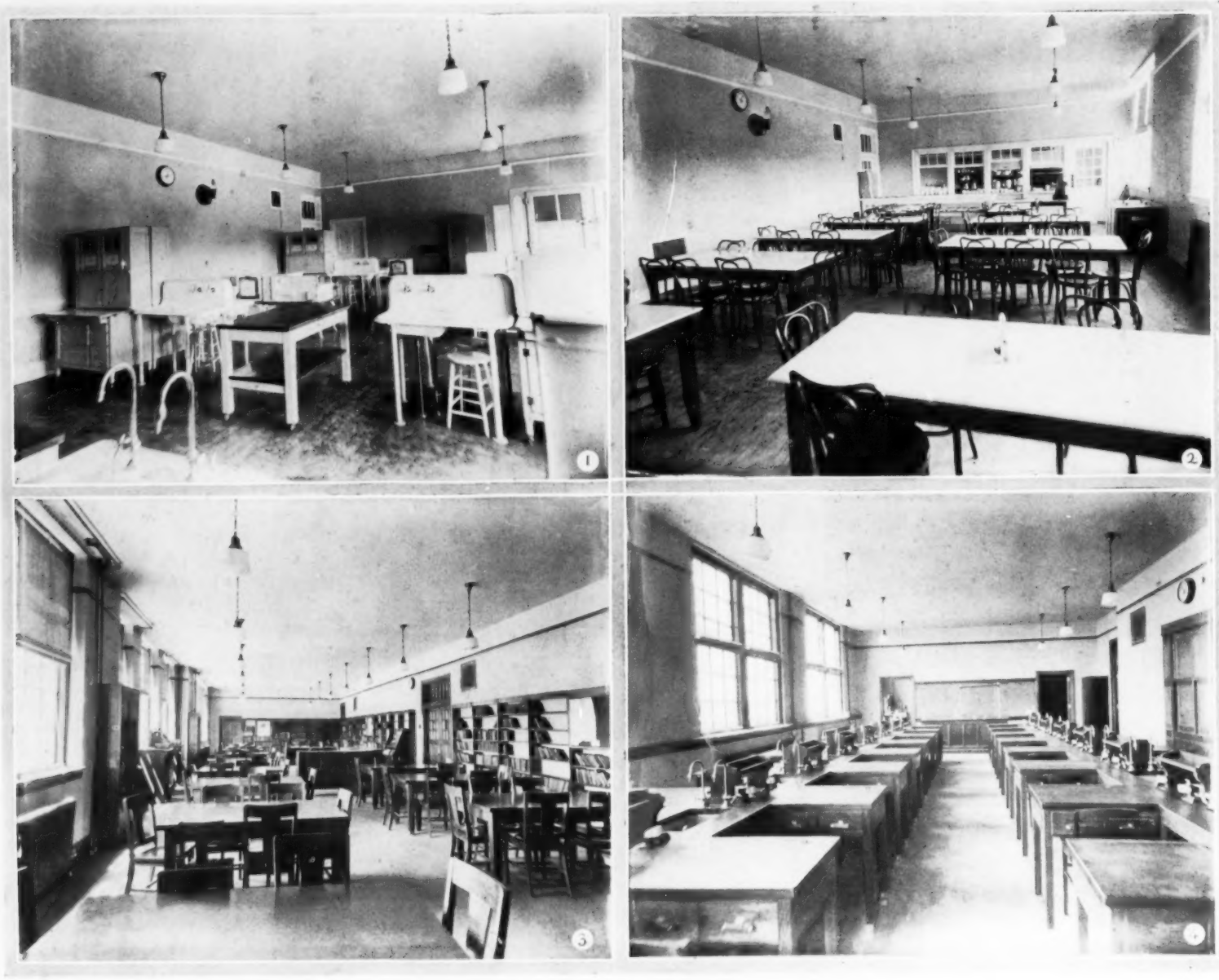
FIRST FLOOR PLAN, HIGH SCHOOL, SALISBURY, N. C.

HIGH SCHOOL, SALISBURY, N. C. C. G. Sayre, Architect, Greensboro, N. C.

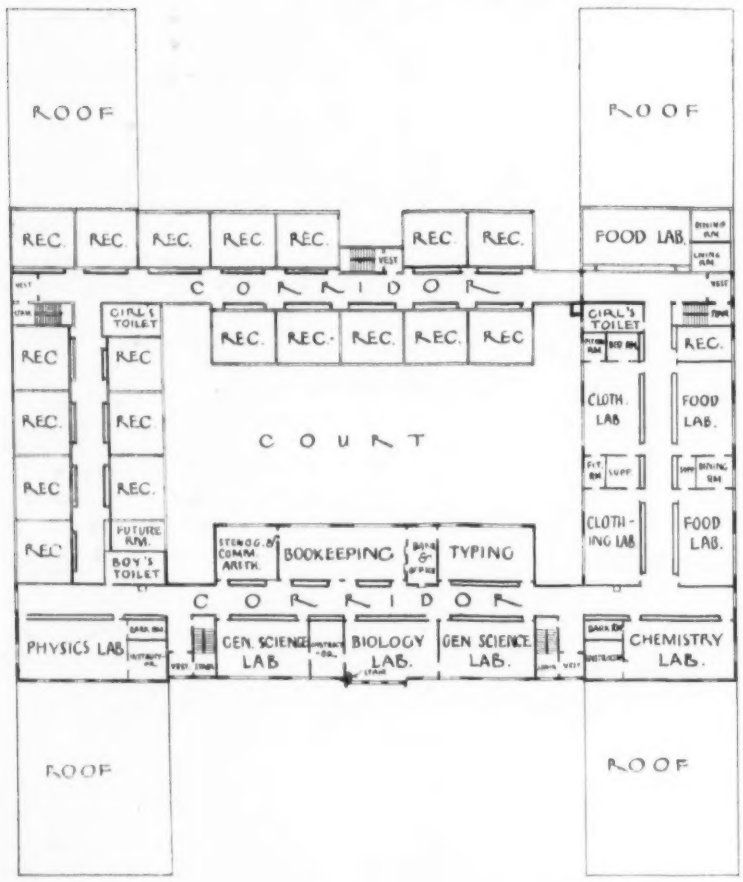
The building was erected at a total cost of $535,000, or 29 cents per cubic foot. The cost of the construction work was $331,200; of the plumbing, $20,000; of the heating and ventilating system, $37,645; of the heat control, $8,568; of the electrical work, $21,635. Equipment consisting of opera and tablet arm chairs, science laboratory equipment, lockers and steel shelving, gymnasium equipment, motion picture machine, and medical unit was purchased at a total cost of $51,887.

The building was planned and erected under the general supervision of Mr. C. G. Sayre, Architect, Greensboro, N. C.

EXTERIOR AND INTERIOR VIEWS OF THE HIGH SCHOOL AT SALISBURY, N. C.
1. Detail of Front Entrance; 2. Auditorium—View from Back; 3. Typical Classroom (26 in present use); 4. Gymnasium.



INTERIOR VIEWS OF THE HIGH SCHOOL AT SALISBURY, N. C.
1. Food Laboratory—Eight Unit Kitchens; 2. View of the Cafeteria; 3. Library—Three Classroom Units; 4. Chemistry Laboratory.



THIRD FLOOR PLAN

SECOND FLOOR PLAN

FLOOR PLANS, HIGH SCHOOL, SALISBURY, N. C. C. G. Sayre, Architect, Greensboro, N. C.

Summer Care of School Heating and Ventilating Plant

E. W. Riesbeck, Consulting Engineer, Chicago

This most important work in school buildings is, in a great many cases, overlooked or not properly taken care of during the summer months.

Heating and ventilating plants in school buildings perform a service often underestimated by those in charge of such plants. Usually little attention is paid to the proper overhauling of the equipment, which can best be done during the summer months. The development and health of thousands of children, who form the future generations, and who will be called upon to complete the unfinished tasks we leave, depends on proper light, heat, and ventilation. Class by class—year after year, students in universities, and children in elementary and high schools, must spend a third of their waking hours or three-fourths of a year in the classrooms. Their progress, comfort, and health depend on the equipment installed to heat, light, and ventilate the classrooms. If we only stopped to think for a few moments, we should realize the tremendous importance of this matter. Careful planning of the installation, and a thorough overhauling of important equipment is an absolute necessity in order that the heating system may function properly during the seven months of the heating season when but little time is available to work on the equipment.

This, by no means small responsibility, rests first upon the engineer, fireman, or caretaker, entrusted with the care and upkeep of the entire installation. Second, upon the school board or those in charge of the institution, who shoulder the responsibility of molding our coming generation and future citizens. Our boys and girls today must have advantages, due to the confinement in closed rooms, often crowded to the limit, that we did not enjoy. Light, heat, fresh air, and healthful surroundings are vastly more important than the building itself or its fixtures—yes, even as important as the teaching staff. Proper humidity, temperature, and fresh air reduce illness, and increase alertness and attendance.

In order that a clear understanding may prevail, as to what constitutes proper overhauling and care of the mechanical equipment, let us go over the equipment installed in small school buildings as well as the larger high schools, colleges, and universities and point out step by step the work that should be done during the summer months.

Stove Heated Schools

In the small school building of the rural district, heated by stoves, the firepot should be thoroughly cleaned from soot and examined for cracks. The grate should be carefully inspected to see that it is functioning properly and is free from defects. The stove pipe should be removed, cleaned inside, and painted outside with a suitable paint. The chimney should be examined to ascertain whether or not any bricks have fallen into the chimney. This may be done by inserting a mirror in the cleanout door, or the stove pipe opening. By holding the mirror at an angle the entire opening of the chimney will be visible showing whether or not it is clear. The chimney should be cleaned of soot by means of a flexible sewer rod, to which two or three old brooms are firmly attached. The strings holding the broom firm should be cut so that the brooms will flare out and fill the chimney opening. Soot in stove pipes causes what is known as soot decay. If the soot is left in the pipes and chimney, it attracts moisture very rapidly, and decay of the pipes will follow. When everything is clean, the stovepipes should be replaced and the drafts left wide open. Circulation will take place, which will dry out the moisture in the chimney, absorbed through the brick during rain storms. The open drafts also cause a healthy circulation through the room during the summer months.

Furnace Heated Schools and Institutions

When schools and institutions are heated by a furnace, it is generally assumed that no overhauling and cleaning are necessary. This faulty assumption leads eventually to grave troubles. The fire pot of most furnaces is cast in sections and joined together by bolts, or is made tight by some kind of stove putty or cement. The enormous heat in the firepot during the cold weather causes the metal to expand. This expansion loosens the stove putty or cement, and when the fire is low, the cast iron sections contract. This constant expansion and contraction during the heating season loosens and sometimes breaks up the cement or putty in the joints, and cracks are the result. If not taken care of, smoke will be discharged through the open joints into the air space surrounding the fire pot. The air, filled with smoke, will be discharged into the classrooms. The amount, be it ever so small, we must acknowledge is not a healthy condition to exist. Walls will be blackened and the health of the children in the classrooms impaired.

When a furnace is closed down for the summer, the fire pot should be thoroughly examined for cracks. This can best be done by using a narrow putty knife, or a thin steel blade. If leaks are found, the joints should be thoroughly scraped, and fresh refractory cement or a good grade of stove putty, obtained from the manufacturer, should be applied. Care must be taken to force the cement or putty into the full depth of the joint. It may be necessary in some cases to remove the outer jacket to do this work properly, but the time and effort spent, compared with the results obtained, will be worth while.

The chimney and smoke pipe should be cleaned as explained under the foregoing paragraph on stove heated schools. The grate should be carefully examined for cracks and all clinkers that may have lodged between the firepot and the grate or on the grate support must be removed. If pipes lead from the furnace to the various rooms, these should be removed and thoroughly cleaned at least once every two years. You will be surprised how much fine ashes and dust you will find in them. The cold air intake should also be cleaned because this contains, in many instances, more dirt and dust than the discharge pipes.

The water reservoir must be cleaned thoroughly of the sediment and scale deposit. If the water has leaked into the air chamber from the reservoir, it may have caused the rusting of the wall, the sheet iron casing, or the cast iron extension of the fire pot around the ash pit. If such is the case, repairs must be made and the rust scraped from all parts. After this has been done the rusted portions must be painted with red lead, to prevent further corrosion. A ¼" ball float automatic valve which may be purchased for very little, will prevent all this trouble, if installed in the reservoir, and assures the presence of water in the reservoir at all times.

Cast Iron Hot Water or Steam Boiler Installations

The piping system, radiators, and valves of hot water or steam heating plants in small school buildings, after closing down for the summer, should be carefully examined for leaks. This can best be done while the plant is still in operation. Leaky joints and valves should be marked with chalk, so that they may not be overlooked. If this matter has been forgotten, the leaks may be noticed by rust spots on the piping, radiators or boiler. Where such spots occur, steps must be taken to repair the leaks, which will never take up and may cause serious trouble in the middle of winter. The water should be drained and the boiler should be thoroughly washed and scraped to remove any sediment, core sand, or scale, lodging in the bottom of the boiler. All cleanout plugs must be removed and by means of a flash light the bottom of the boiler thoroughly examined.

The chimney, smoke pipe, and flue passages of the boiler must be cleaned of the accumulation of soot and ashes. The grate should be carefully examined as explained above. A broken grate section or a faulty support, if they give out in the winter, may mean school suspension, especially if extra parts are not on hand. It pays to have repair parts at the school or institution for emergencies. The smoke flue should be carefully examined for weak spots and holes. It often appears that a smoke flue is intact, but in many instances the writer has pushed his finger through smoke flues that seemed to be in good condition. Cast-iron smoke pipes, now available, have prevented many school fires and are known to give from eight to fifteen years longer service than sheet metal pipes, which last only from two to four years.

When the boiler cleaning is completed, the cast iron water or steam boiler should be filled completely with water to avoid corrosion, and to assure that when someone fills the firepot with papers and refuse and ignites same, the cast iron sections of the boiler will not crack. This is a common occurrence in schools and institutions and will be avoided if the boiler is filled with water. Rubbish and paper when ignited, cause an extremely hot fire, and the local expansion may cause serious trouble in cast-iron boilers. It is therefore a good policy to discourage the burning of rubbish under a cold boiler during the summer months.

Care of Steel Fire Box and Return Tubular Boilers

Chimney, smoke flues, grates, and ash pit should be carefully examined, as explained before. The boiler tubes should be carefully cleaned and scraped to remove the soot from them. This can best be done by a stiff wire brush or a scraper of the same size as the boiler tubes. The brick walls, if such are present, uptakes, and fire walls, should be carefully examined for cracks and leaks. If such are present, they cause a great loss of heat. Cracks and leaks can be readily discovered by means of a burning candle. The flames will be sucked into the cracks or leaks. All cracks should be filled with asbestos, tightly caulked into the crack, and the remainder of the crack should be filled with a good grade of refractory cement, or a good grade of mortar if the crack is on the outside of the wall.

The firebrick lining of the furnace, the arches, the fire wall, and the lining of the combustion chamber are generally cracked and in some cases bricks may be missing. These should be carefully replaced, and firmly set in place by a good grade of refractory cement. When fire clay or cement is used, the trouble with most masons is that they use both the fire clay and cement as they would ordinary mortar, and apply it with a trowel. This method cannot be condemned too strongly. Fire brick must be dipped in fire clay or refractory cement and each brick must be tapped down with a hammer. Under no circumstances must

fire brick be laid in a heavy mortar. The fire clay or refractory cement must be mixed thin to the consistency of cream to get the best and lasting results. Such walls or arches will last four times as long as those laid in fire clay mortar. The mortar burns into dust and crumbles from the joints, thus leaving the brick loose and the intense heat penetrates through the loose and open joints into the common brick wall, surrounding the setting, which causes this wall to crack. If more care is exercised in laying up the fire brick wall and arches, a great deal of waste and trouble will be avoided, and thousands of dollars will be saved.

The inside of the boiler should be thoroughly cleaned of scale and mud and the blowoff pipe examined to assure that it is clean. Serious trouble, even loss of life and property, has resulted from clogged blowoff pipes, not attended to when boilers were cleaned. The combustion chamber and the rear end of the boiler, the bridge wall, and the smoke flue should be thoroughly cleaned of ashes and soot. The accumulated ashes in the bottom of the stack should be removed. This item is usually forgotten and the ashes pile up so high that it interferes with the draft.

The engineer or fireman should go into the boilers and examine all stay rods, braces, etc., by tapping them with a hammer to assure that they are taut, and not cracked. Serious explosions have resulted from carelessness in this respect. If the boiler is insured, the insurance inspector should be notified at this time to inspect the boiler.

To lay up the boiler properly for the summer months, with the least injury proceed as follows:

Drain all the water from the boiler and leave all manholes open so that the air can circulate through the boiler for a few days, to thoroughly dry any moisture adhering to the boiler walls and flues. The filling of the boiler with water after it is cleaned, will not help corrosion, because the water in the boiler is cooler than the air and will cause the boiler to sweat, thus setting up corrosion on the outside as well as the inside. It is therefore recommended that after the boiler is dried and cleaned, the manholes be inserted, and the boiler closed up tight for the summer. Care of course must be taken that water is put in the boiler before starting in the Fall.

No rubbish should be burnt under the boiler during the summer months while it is empty. The safety valve should be propped open to prevent its sticking to the seat. All shut-off valves should be packed around the stem with a good grade of packing. Candle wicking and hemp burn out readily and should not be used. When composition seats are used in the valve, they should be examined for cracks. The fact that the valve has been tight during the last heating season is no evidence that cracks do not exist, which may cause the disc to leak or even to crumble and fall out. A valve is of no value unless it is tight and can be relied upon to close in case of emergency. All valve seats should be examined at least once every two years. Rubber gaskets in unions and between flanges should be examined for leaks. The engineer or fireman has ample time to take care of this matter and leaks, properly attended to, will avoid trouble and shut downs during the heating season, as well as save considerable money.

Gauge glasses badly filled with lime on the inside and outside can be cleaned with muriatic acid. The acid must be allowed to stand in the glass long enough to dissolve the carbonate of lime. This may be done without removing the glass. Any other vessel or pipe badly filled with scale may be cleaned in the same manner by emerging or filling with muriatic acid. When all scale formation is removed, rinse thoroughly with cold water. The water leg of fire box boilers should be carefully examined by removing all the hand holes, and the scale should be scraped out clean. The sediment of fire box boilers will gather in the water leg and harden to a solid mass if not removed carefully.

Ventilating Equipment

It is often erroneously assumed that no attention is required on the ventilating equipment, the engine, air compressor, or any other equipment installed in connection with ventilating units. The fact that such equipment has operated satisfactorily during the last heating season is no proof that it will continue to do so. Fan engine bearings, motor bearings, and fan shaft bearings wear down rapidly and need adjusting, refinishing, or replacing. The cylinder head and the slide valve cover of fan engines, should be removed and the cylinder bore examined; also the slide valve and slide valve seat. If ridges are formed on the valve seat, they can readily be scraped even. If the cylinder is badly scored, it is evidence that the piston rings are broken or badly cut. Defective rings must be replaced. If the cylinder is badly scored, it may necessitate re-boring. At this time and while the cover is removed from the slide valve, the engine should be turned over and placed on the lower and upper dead center and the position of the valve should be noted.

The valve may leak steam and need adjusting and checking over frequently, due to the wear or slipping of the eccentric.

If the fan is motor driven, the dust and carbon from the brushes must be blown out. This can be readily accomplished with a bellows or by attaching a hose to the discharge of a vacuum cleaner. If sparking exists when the motor is started, the brushes may be dirty or the spaces between the commutator sections may be filled or the spring tension on the brushes may not be great enough to hold the brush to the commutator. To lean or to fit a new brush, slip a piece of No. 0 sandpaper between the brush and commutator with the sand side towards the brush, pull back and forth a few times, keeping the sandpaper close to the commutator. This will assure that the brush will fit the commutator properly and be clean. If any wires are bare, they should be insulated with friction tape. The rotor should be examined and if it is found that a greater space exists between the rotor and the top field coils than between the rotor and the bottom field coils, the bearings should be renewed or the old bearings turned upside down, which oftentimes can be done on the standard type of motor. The oil rings or chains need examining to make certain that they revolve freely. The oil should be drained from all motor bearings once a year and the oil chamber washed out by flushing it with gasoline. When this has been done, the chambers should be refilled with motor oil which has a greater viscosity than machine oil. The oil level in the chamber should be even with the underside of the shaft.

The indirect radiation installed on the discharge side of the fan should be clean of dust, which collects in large quantities when no air washer is used. This dust lodges between the sections and gathers around the pins on the radiator sections. The air for ventilation in smaller institutions is often drawn from the basement or an adjoining room in place of outdoors, and in this case is saturated with ash and coal dust, which increases the amount deposited between the sections of the "indirects." If plenum chambers or ducts are controlled thermostatically, then the air compressor, its valves, and piston should be examined to assure the proper functioning.

Steam traps on indirect heating mains and risers need cleaning every year. Due to the wire drawing, the seat and valve of a trap is generally so badly cut that it needs regrinding or replacing. In one school on which the writer checked up, over $400 worth of coal was wasted by steam going through the trap and leaky valves. Where thermostats are installed in the ventilating duct or rooms, they should be carefully examined and repaired when necessary. The air filters on the air compressor, through which the air must pass, should be cleaned or replaced. In many instances where thermostats are not functioning properly, the fault lies with defective air filters which allow dust to enter the pipe lines and readily clogs the small minute openings in the thermostat. The diaphragms of thermostatically controlled radiator valves, after they have been installed for a number of years, harden and thus render the valve inoperative or unable to perform its function properly. Overheated rooms will be the result. Such diaphragms as have hardened should be replaced. The room thermostats should be cleaned from dust and dirt by means of air from a bellows.

All dirt pockets on air and steam lines, particularly those on risers, should have the sediment and scale removed from them. This can be done very readily by unscrewing the cap at the bottom of the dirt pocket. The humidity in classrooms is of great importance and should have the proper attention. Where ventilating systems are installed without an air washer, sheet metal pans may be provided filled with water, either automatically by means of a float and valve arrangement or by hand. These pans will serve materially to increase the comfort of the students.

Proper humidity of the air is as important as pure air itself and persons at rest in a room with a temperature of 68 degrees F. and proper humidity, will feel more comfortable than when they are placed in a room in which a temperature of 72 degrees exists and the humidity is naturally lower at this greater temperature. The proper humidity is considered to range between 35 and 50 per cent. More work and activity can be carried on in rooms with this amount of humidity present.

Fuel Oil Installations

Where fuel oil burners are installed under boilers, the entire burner should be taken apart and thoroughly cleaned. If any refractory walls are present they should be carefully looked over. If cracks appear, the entire wall may be coated with a good grade of refractory cement. The strainer connected between the fuel oil tank and the boiler should be cleaned of sediment, and the wire strainer itself should be examined to insure that it is in perfect condition. The fuel oil pumps and valves, as well as any check valves installed in the line, should be carefully examined and cleaned. All electrical contact points should be cleaned with sandpaper and the motor bearings, oil rings, and blower bearings, should be given careful attention to see that they are in proper condition. After the overhauling is completed, the boiler should be started and operated to assure that everything is in running order.

In General

When the plant is laid up during the summer months, all bright engine, motor, pump, fan, and compressor parts should be greased to prevent rusting and the entire plant given a coat of paint.

It may seem that the foregoing advice is elaborate but it is astonishing that all the things outlined above will consume not a very great amount of time, and in most cases all of it can be accomplished by the engineer, fireman, or caretaker if he is given the proper instructions. The fact that the plant has been in

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Baltimore Public School Cafeterias

Charles W. Sylvester, Director of Vocational Education

The large school building program which has been in progress during the past few years, has made it possible for Baltimore to plan for adequate cafeteria facilities in many elementary, junior, and senior high schools. The school lunch is rapidly becoming an important part of the school system. The cafeterias are operated on a sound business and educational basis and cooperate in every way with all the departments of the school system to make it of the greatest value to the many student bodies. It is a large business and all plans, extensions, and operations require close attention of specialists in cafeteria work.

Very little attention in former years has been given to this very important phase of our public schools. The city of Baltimore has realized the importance of a healthy mind in a healthy body by providing in its new school buildings, splendidly equipped gymnasiums, showers, nurses' and doctors' offices, and school cafeterias. Health is one of the vital aims of public education, therefore it is the duty of the school to assume complete control of the dispensing of food to the school child on the school grounds. In the planning of cafeterias in connection with new buildings, opinions of many experts were secured. Many cities were communicated with relative to the management and operation of cafeterias, and although there were many different plans for this work, Baltimore has attempted to take advantage of the best things in many systems and to organize cafeterias accordingly. Architects, engineers and equipment experts were consulted relative to the location of cafeterias, general layout and equipment. A great deal of time was devoted to special study of this proposition.

TYPICAL CAFETERIA IN THE BALTIMORE PUBLIC SCHOOLS, BALTIMORE, MARYLAND.

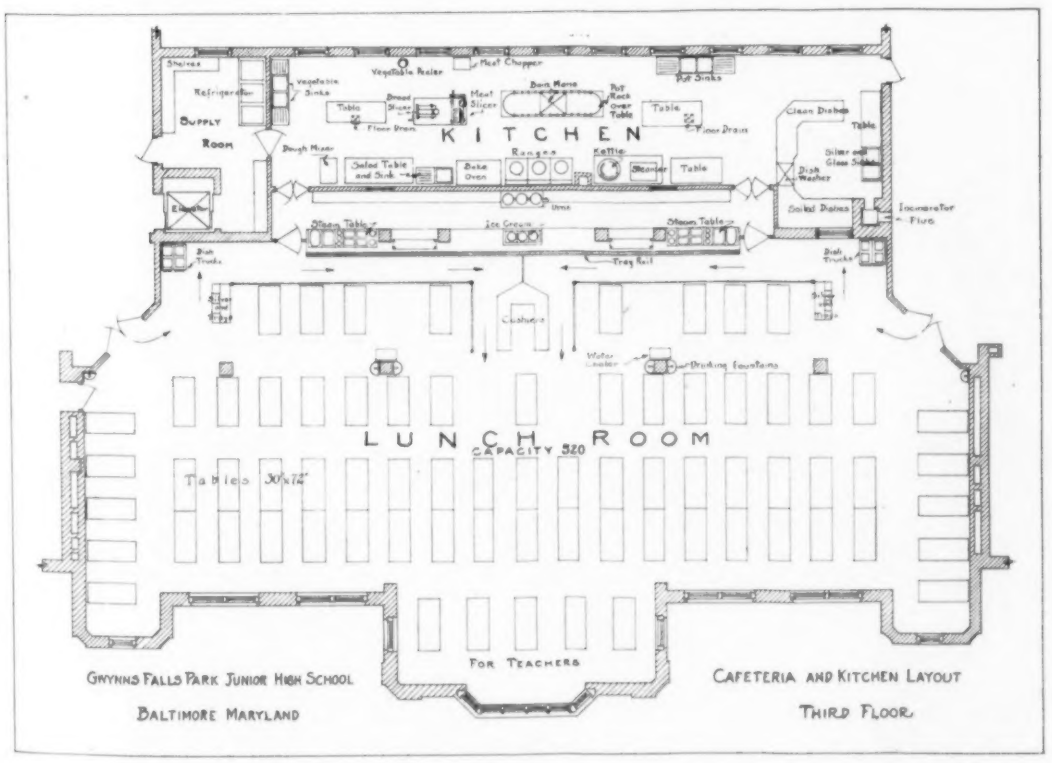
Management and Operation

The department of education took over the actual operation of school cafeterias in September, 1924, at which time cafeterias in one junior and one senior high school were opened. In September, 1925, a cafeteria was opened in another new high school, and in April, 1926, one was opened in connection with a new junior high school. In September, 1926, it is proposed to open two additional cafeterias in junior high schools. Others will be organized and opened as rapidly as new buildings are constructed and wherever possible to make proper arrangements for cafeterias in old buildings. A few cafeterias are still under the operation of a private concessionaire.

The division of vocational education is responsible for the organization and general direction of all cafeterias, which are operated by the department of education. The supervisor of home economics education supervises the work of the cafeteria employees in the buying, preparation, and service of food. The supervisor of commercial education supervises the cafeteria accounting. These two supervisors, with the director of vocational education, constitute a committee of three for the purpose of all general planning, organizing, developing, and operating of the cafeteria departments. A trained dietitian will be given general charge of buying and accounting for all cafeterias with the opening of schools in September, 1926.

Each cafeteria is operated by a dietitian who has had special training and experience in lunchroom work. She is appointed by the board of school commissioners and is directly responsible to the supervisor of home economics education. As cafeteria director she is a member of the faculty of the school where she is located and is in direct charge of all matters pertaining to the direction of the cafeteria of which she is director. From a school standpoint, she is naturally under the direction of the school principal.

There are many reasons why all cafeterias should be under one central management. In the first place, a great deal of money can be saved by large quantity buying; accounting and the handling of records can be taken care of much more economically and the whole matter of food preparation and service can be unified and standardized. In reply to letters sent to eighteen of the largest cities in the United States, it was found that only seven were under central management, but a number indicated that it was very much desired. Sixteen of the eighteen replies say that the cafeterias are operated by the school system either with central management or separate school operation.



CAFETERIA AND LUNCH ROOM LAYOUT AT THE GWYNNS FALLS PARK JUNIOR HIGH SCHOOL, BALTIMORE, MARYLAND.

Operating Personnel

In addition to the special training for and experience in lunchroom work, the dietitians are graduates of colleges of recognized standing, having majored in home economics and institutional management. The dietitian plans menus, directs the preparation and service of food, and guides the students in wise selection and suitable food combinations. This is carried out by an inspection of trays, suggestive posters, articles in the school magazine, and talks to students.

The dietitian is responsible for the employment of all cafeteria personnel. This includes

all persons employed in the preparation, sale and service of foods, janitor service, and accounting. Students are employed for serving of food and for certain duties in connection with the preparation of food and as bus-boys. The persons employed in the cafeteria work are required to pass a physical examination which is given by an officer of the city health department. Considerable attention is given by the dietitian to the supervision and training of the student workers.

One scheme of particular interest, and one which promises to be very successful, is a vocational training course in Institutional Cookery which is carried on in connection with the new Douglass High School. In addition to being of very great assistance in the preparation and service of foods, the boys and girls enrolled are receiving training which will fit them for employment in cafeterias, lunchrooms, tea rooms, hotels, and similar places.

Layout of Lunchrooms and Kitchens

While no definite policy has been established in regard to the location of lunchrooms in new buildings, it is believed that the most desirable location is on the ground floor. This location facilitates the delivery of cafeteria supplies, the disposal of waste materials, and a more satisfactory handling of students.

Special attention has been given to the scientific arrangement of all equipment in the kitchens. Storeroom and dish-washing equipment has been arranged to operate most efficiently. Steam tables have been planned after a general agreement was reached about the proper arrangement of the food to be served and the students to be accommodated. All plumbing, electrical outlets, and drains were arranged to conform to the proper location of equipment.

All cafeterias have been provided with good natural light as well as splendid artificial lighting schemes. Attention has been given to proper ventilation. It has been found desirable to have wood floors in the lunchrooms. A mastic floor with drains is most satisfactory for cafeteria kitchens. A concrete floor is satisfactory except that it is not resilient. The plan given in this article shows the typical layout of the new junior high school cafeteria and kitchen.

Equipment

All equipment, including the power driven and hand operated machines, stoves, sinks, ovens, kettles, tables, refrigerators, steam tables, dishes, silverware, and similar items, was originally provided by the board of school commissioners. A study was made of types of equipment used in other cities and also many types of new equipment which is available for lunchroom purposes. While a splendid quality was selected, it was not thought desirable to purchase the most expensive. The gas ranges in the larger cafeterias ordinarily consist of three sections of hot top hotel type. Hoods have been arranged over all ranges, bake ovens, kettles, and steamers for the purpose of taking off all gases, vapors, steam, and odors.

The power driven machinery includes one combination kitchen mixing machine with accessories, driven by a one horse power motor; one 14 inch vegetable parer, one-fourth horse power motor; one silent meat chopper, one horse power motor; one dish-washing machine, 1½ horse power motor with capacity of 8,000 pieces per hour.

Cafeteria serving counters are equipped with two combination steam tables and dish warmers wherever possible. The counters are faced on front and ends with 20 Stubbs gauge monel metal. The top is ten gauge polished plate steel covered with same weight monel metal. The tray rail is of three bar type, highly polished nickel silver tubing. The standard steam table consists of one 24 quart soup tureen, two 16″x20″x2″ meat pans, three 3-quart gravy bowls, four 11-quart vegetable jars. Two display stands with plate glass shelves are installed on each counter. Ice cream and bottled milk cabinets provide for three separate compartments and are arranged to provide for five gallon ice cream jars and bottled milk compartments. Cocoa urns consist of a battery of three with stirring paddle, two 6-gallon size and one 12-gallon size for hot water.

The cashier's stand, which is provided, is arranged to accommodate two cash registers of the total-adding, receipt and detail-strip-printing, electrically operated type. The large refrigerators are arranged with three storage compartments and are cooled by the proper size electrical refrigerator cooling unit. Other items of very useful equipment are: one automatic bread slicer and one meat-slicing machine.

A great deal of attention is given to the selection of tables and chairs for cafeteria use. The types up to the present have included vitrolite, porcelain enameled top, and wood top tables. It is felt that, everything being considered, the wood top table with bar finish is perhaps the best buy for school use. There is considerable breakage and noise on the hard top. It has been found desirable to purchase bentwood chairs for cafeteria use, of the low back type, full height being 28″. These chairs are easily handled, less subject to breaking and require less floor space.

Cost of Operation

The total cost of operation of the cafeterias is payable out of the receipts of the lunchrooms. These costs include the salary of the dietitians, all employees, food, laundry expenses, paper and office supplies, and janitor service. The remuneration allowed the dietitians is determined by the board of school commissioners. The wages of all other employees are set by the managing dietitian. Employees are paid ordinarily on the hour or weekly basis. Pay for student help is 17½ cents for each thirty minutes of work or an allowance of a 25-cent lunch. The replacing of all small equipment and repairs necessitated by the use of the equipment, is paid for out of the lunchroom receipts.

Lunchroom Capacity

The capacity of the new lunchrooms in operation varies from 500 to 700. The numbers actually served each day vary from 1,200 to 1,900 in each lunchroom. Many students bring their own lunch but take advantage of the lunchroom seating facilities. The lunch period is forty minutes in length. In some of the schools only three shifts are required to accommodate the students. In others, four shifts are required.

Menus and Prices

The dietitian in charge of the cafeteria is responsible for the preparation of all menus. The price of the food to the children is controlled by the operation costs. Special attention is given to serving food of the very best quality and kinds which are most suitable to the needs of school children. Vegetables, milk, fruits, ice cream, wholesome desserts, cocoa, fruit drinks, home-made cake, and simple meat dishes make up a large part of the menu.

The average pupil's lunch is 12 cents. The bread and rolls vary in price from 1 to 2½ cents, the vegetable dishes are 5 cents, meat and salad dishes are 10 cents, while milk is sold at 5 cents per half pint. When profits are large a reduction in price is made.

Accounting and Records

The commercial department of the school, wherever it can be conveniently arranged, is responsible for checking receipts, accounting, paying bills, handling cash and banking, making reports to the school administration office, and all other financial transactions. In at least one instance, it has been necessary, because of the large amount of work to be done, to employ a bookkeeper for much of this work. The records of the cafeteria include cash book, journal, ledger, and check book. An invoice register, in which the payments of invoices is recorded, is kept by the dietitian. In some instances, a training project has been made out of the business transactions of the cafeteria in the senior high school.

The checks for payment of invoices are prepared by the commercial department, but require the signature of the cafeteria director as well as a representative of the commercial department. The payroll is made from the cafeteria director's time book. The payrolls are taken from the bank deposits rather than from cash on hand. The commercial representative prepares the deposit slip and in certain instances takes the money to the bank for deposit. A

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TYPICAL CAFETERIA EQUIPMENT IN THE BALTIMORE PUBLIC SCHOOLS, BALTIMORE, MD.

The Maintenance and Reconditioning of School Equipment

Ralph G. Waring, The Tuscarora Laboratories, Syracuse, N. Y.

Whether it is the school board of a small town with one or two frame buildings, or the board of a large city with a physical plant valued at several millions—both are faced with the ever-present problem of equipment maintenance.

All types of schoolroom desks have faults which show up clearly in the course of years. The child-proof desk and seat has not been made, and every superintendent of school building maintenance will become vehement in his condemnation of types of desks and equipment which have given trouble. Even the best desk will succumb to wear and tear, and will ultimately require repair and overhauling before it can be continued in service as a sanitary, presentable piece of furniture. All of the foregoing remarks apply to teachers' desks, cabinets, and other school furniture and apparatus. In the following paragraphs, practical methods, which have been tested, will be described.

Fig. 1. The photos illustrate a corner of the store room for equipment as it should be generally handled. Note that the material, which has been recovered from a fire junk pile, has been knocked down and sorted according to the various sizes of frames, seats and backs, and tops which are of cherry, or cherry and maple combination.

Where quantities of this class of equipment accumulate for reconditioning it is best to provide a series of tanks which will be heated by steam coils or gas for Oakite solution, clear water, and draining. Oakite for this purpose should be used at the rate of two ounces per gallon of hot water. The old iron frames are dipped in the solution for a minute or two; removed; scrubbed vigorously with a palmetto fiber brush, and then rinsed in clean, hot water. By arranging a pipe frame rack with plenty of sliding hooks, these seat frames can be taken from the hot rinsing water and hung up where the absorbed heat in the frames will rapidly dry off the moisture.

From the scrub tanks and drying frames, desk castings go directly to the japan room where a coat of turpentine asphaltum varnish is either brushed or sprayed on. In many cases, where the volume of work is sufficient to warrant the expense ($250 to $500), the installation of a spraying machine of the De Vilbiss Aeron type is worth serious consideration as the output is several times greater than the same operator could do with a brush. Not only is the work faster but it is cleaner, more evenly applied, and covers edges of molded work and patterns in a way impossible with a brush. This class of help in the paint shop can be had for seventy-five cents per hour or less, and is quickly and easily trained in the proper handling of the spray gun. In a recent time-and-cost-study of painting walls with the gun, as compared with brush in the same plant with the same material, the brush gang produced good work at one and one-fourth cents per square foot, while the spray crew did much more work of better quality than the brush gang at one-half cent per foot. The factor of depreciation on the spray machine was about three per cent as compared with 26 per cent on brush equipment, which ran to quite a figure for a gang of 20 men.

The mist produced by a properly designed and operated spray gun is negligible and should in no way offer any difficulties in schoolrooms. Excess mist is produced by careless pressure controls, excess fluid, or the poor design of a cheap gun.

The wooden seats after being roughly hand scraped to remove all old varnish are put on a sand belt machine and rapidly cleaned up with No. ½ garnet paper belting held in place with a weighted form block, faced with hard rubbing felt. The work requires a high grade mechanic and all-around carpenter or cabinetmaker, for he is responsible for the class of repair work and is paid $1.12½ in Syracuse. In case scratches, holes, or dents remain after the cleaning up of the work, the defects are filled up with either a colored shellac made for "burning in," or a cold water putty which dries very hard, which can be colored to match the wood with dry pigment colors, and which cannot easily be dug out again. At the present time in an eight hour day one carpenter sand belted 210 pieces of desk tops at four cents per member. The cheaper seventy cent labor does the work on the seats and back sections which are maple and cherry alternate strips formed to a curve to fit the back of the seat occupant.

Following the belt sanding and repairs, the wood parts are carefully dusted off and sent to the paint shop where the floors are oiled and sprinkled regularly to keep down the dust. Here they are given a brush coat of pure white shellac, reduced with equal parts of denatured alcohol, dried three hours, cuffed off with a split 6/0 garnet finishing paper, redusted, and varnished with a hard floor varnish, like Pratt & Lambert Co.'s No. 61, which stands the wear and tear of school equipment the best of all types of varnishes. After three days' drying in a heated room the faces are cuffed off again with a split 6/0 garnet paper, and after dusting are revarnished with hard floor varnish, then dried for a week. After this the desks and frames are assembled ready to set in place in the classrooms, all work being left in the gloss. In general, costs for this class of work are less than 25 per cent for equal grade new equipment. As a rule the reconditioned old equipment is considered better than new desks, due to the thoroughly seasoned condition of the wood. Whenever possible, the desk equipment is finished in the natural cherry and maple combination, since this appears to make a more cheerful and pleasing room than some of the greenish brown maple stains now in vogue.

In Fig. 2 is another class of equipment from an old school partly destroyed by fire. Here everything is much worse than it appears photographically. The pieces are badly smoked, stained with extinguisher chemicals, the frame parts are broken and so is the glass. The furniture is well worth reclaiming, however, and is being put into service again. Here again the Oakite (2 oz.) solution plays an important part in the partial removal of grime, floor oil, and stains in general. It is astonishing how clean such case goods will become after a strenuous scrubbing with a hot solution and a palmetto brush applied by husky cheap labor. Occasionally a scrubbing with denatured alcohol and steel wool is all that is necessary.

The work is dried over night and is then put through the carpenter shop where good repairs are made in proportion to the reclaim value of the piece in hand. Drawer fronts are refaced with the plane if necessary; tops are rejointed and glued before surfacing where broken glue joints necessitate the work; veneers are replaced; all necessary scrapings and belt and hand sandings are completed.

This leaves the work generally smooth but many times badly stained, especially if the equipment is oak as is generally the case. Oak is a wood high in tannic acid content and readily absorbs iron from water and other sources, with the resulting black ink type of stain. For this reason a coat of bleach is next applied as shown in Fig. III, through the use of an oxalic acid solution containing from two to four ounces per gallon of water, depending largely upon the depth of stain. Sometimes

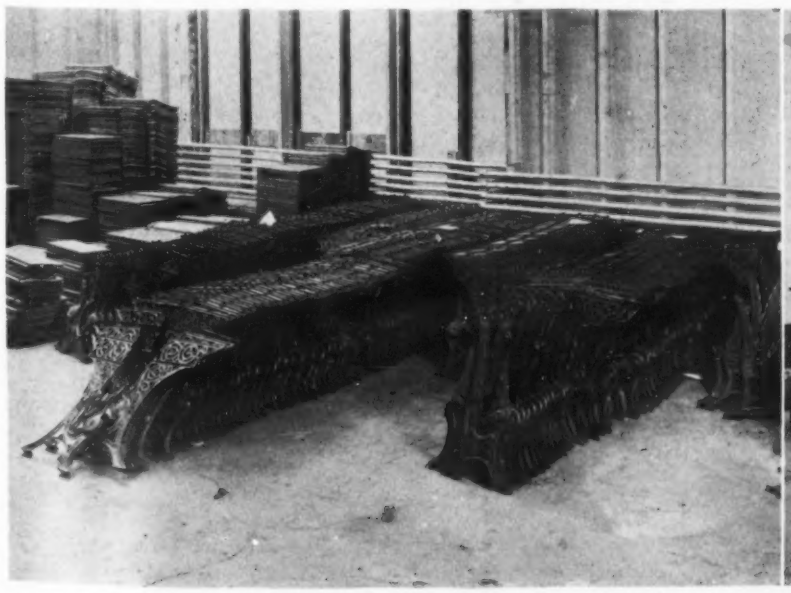

FIG. I. STOREROOM OF SEATS AND FRAMES RECLAIMED FROM SCHOOL FIRE JUNK, AFTER BEING KNOCKED DOWN AND SORTED.

They will be dipped in hot oakite, scrubbed, rinsed in clean water, and dried before being sent to the paint shop to receive a spray or brush coat of turpentine asphaltum varnish.

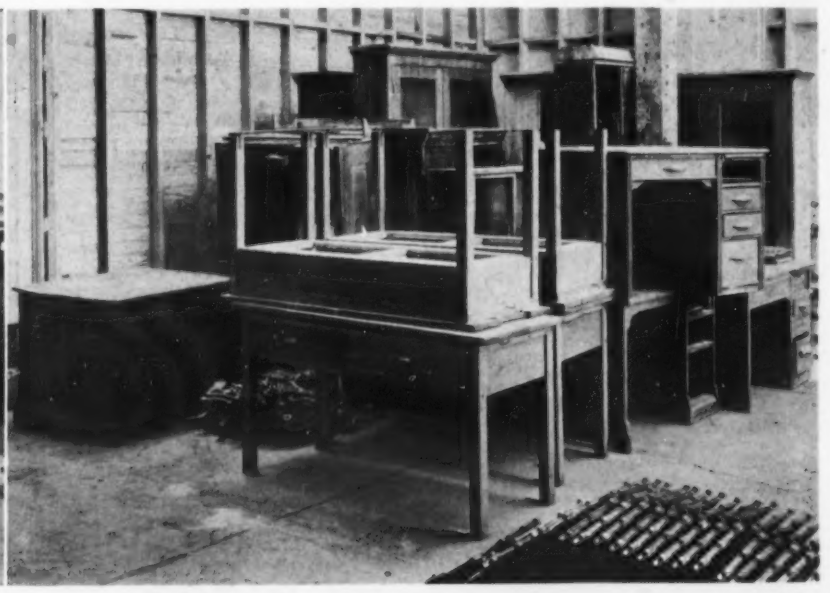

FIG. II. CORNER OF STOREROOM SHOWING EQUIPMENT AS RECEIVED IN JUNK FORM FROM A SCHOOL FIRE, WAITING ITS PLACE ON THE SCHOOL PAINT SHOP SCHEDULE.

(Actually much worse than photographed.)

FIG. II-A. THE SAME MATERIAL AS SHOWN IN FIGURES I AND II AFTER BEING RECONDITIONED AND PUT BACK IN SERVICE.

FIG. V. LABORATORY TABLES AFTER 12 YEARS' USE WITHOUT BEING TOUCHED.
Refinishing these tables averaged $25.00 each. At this time a coat of vaseline would improve their appearance by making a deeper black on the tops.

stubborn spots are lightly resanded and a second coat of bleach given. This method is much cheaper and faster than in the carpenter shop, where it is necessary to scrape and sand all cases to new wood.

When the bleach has dried over night and performed its work satisfactorily, the work is generally filled with a silex base filler made up from

5 lbs. silex,

12 oz. varnish,

2 oz. raw linseed oil, thinned with a mixture of 2 parts turpentine and 1 part gasoline.

When coloring is required, use pigment colors ground in oil as raw sienna, raw and burnt umber, drop black, and Van Dyke brown. Sometimes a little turpentine asphaltum varnish is added, in case a real golden undertone is desired. All filler is allowed to dry 48 hours, after being rubbed off thoroughly with burlap and clean rags or dried moss. Special attention is given to see that all mouldings and panel lines are properly cleaned out so as to avoid leaving any filler in the corners to spoil the varnish brushes.

At this time a coat of shellac, generally orange, is applied over the dried filler, to act as a shade coat and to aid in producing a generally even tone, as well as producing a sealing action on the filler in the pores. Three hours' drying for the shellac in the 80° F. temperature of the paint shops is ample and it may then be cuffed off with a split 6/0 garnet finishing paper.

After dusting off the sanded shellac work, the case is put into the varnish room where the best grade of floor varnish is applied, since it alone has successfully withstood the rigorous tests given this class of material. This class of work must be given over to an experienced mechanic since he can increase, or totally spoil, the value of the work as received from the carpenter shop, depending entirely upon his experience and real ability, or its lack. A three days' drying in a heated room is generally ample, after which the varnish is cuffed off with a split 6/0 garnet paper or mossed off with curled hair, dusted and revarnished. After a week, the doors are rehung, the handles put back on the drawers, and the piece of furniture may be put in service again. All work is left in the full gloss since there is seldom a demand or need for rubbed work, except on teachers' desks made of quartered oak of good figure. On this class of work, the highest grade of three-coat rubbing is done on the desk tops. The added care which a teacher gives her desk through pride in the beauty of the top is well worth the extra labor of producing a rubbed top. So much for the movable and more or less transient equipment of the schools.

Perhaps one of the biggest problems today is the handling of the gymnasium floor. In one school, I have been yearly testing out every conceivable combination of black striping materials to use in laying out the basket ball courts. The materials tested have run the gauntlet of stains, shellacs, varnishes, and enamels, none of which would last more than a term. The greatest trouble of all was caused by the fact that in New York state it is legally required that all school floors be treated with Standard Oil Company floor oil once a term. This is, of course, fatal to all oil or varnish type of materials, which quickly rot, soften, and soon cease to exist altogether under the feet of continuous gymnasium classes. (See Figure IV.)

With the advent of the new "brushing lacquers," however, our troubles seem to be over. Our present specification calls for the stripe area to be sanded, dusted, washed freely with denatured alcohol, dried, and then brush coated with two coats of black lacquer, allowing one hour between coats. A Fitch brush is used since black China bristle brushes do not lay down the lacquer smoothly enough. Generally speaking, these lacquers brush better when diluted one-fifth to one-fourth with the "thinner" made by the manufacturer of the lacquer used. No other can safely be considered. This method will permit the use of the gymnasium within two to three hours after a treatment has been concluded, as against the three to five days required for varnishes and enamels. Otherwise the treatment is generally deferred until the summer vacation. Owing to the rapid evaporation of the thinners used in these lacquers it will be found more practical to use as small a cup for the brush work as possible.

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FIG. III. ONE CORNER OF THE PAINT SHOP.
Legs and drawers, white-enameled, to recondition domestic science equipment in background. Mechanic is bleaching out smoke stains on a cabinet, after sanding smooth and before refilling for varnish finish. Stove burners, brush coated with aluminum bronze, in right hand foreground.

FIG. IV. "CUTTING-IN" GYMNASIUM CIRCLES WITH BLACK "BRUSHING LACQUER," AFTER SANDING AND WASHING THE FLOOR WITH STEEL WOOL AND DENATURED ALCOHOL.

The Purchase, Storage, and Distribution of Supplies

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Board of Education, Lakewood, Ohio

The point of contact at which friction is most likely to occur between the educational and business departments of any school system is in the handling of school supplies. It lies within the power of the purchasing department to hamper the educational program very seriously by careless purchasing methods and dilatory deliveries. It lies within the power of the superintendent of schools in many cities to cast the well-known "monkey wrench" into the financial machinery by requisitioning supplies beyond the budget allowance. Where open warfare exists between the educational and business departments of a school system, it usually may be traced to one or both of the faults enumerated.

The adoption of sound business methods and a sane requisitioning and purchasing policy by the board of education should have the effect of eliminating all points of irritation.

No matter what the organization of the educational forces of a school system may be, whether dual, unit, or multiple type of control, the decision as to the kind, quality, and amount of supplies, the time of their purchase and distribution should rest with the superintendent of schools. He is the officer who is directly responsible for the education of the children and as supplies are so intimately connected with the quality and cost of education, the superintendent should have the opportunity of determining all vital questions in relation to them.

Large amounts of supplies should always be ordered from four to six months in advance of the expected date of delivery. Kindergarten supplies needed in September should be ordered in April or May at the latest. Second semester supplies should be ordered in July or August. Where purchases are made on an annual basis an even longer interval between order and expected delivery is desirable.

Early ordering naturally involves early requisitioning. The purchasing officer should not be held responsible for tardy deliveries when the approved requisitions have been delayed on their way to him. On the other hand, he should not be held blameless if a reasonably sufficient time has been given him to make the purchases and deliveries. The ideal of the purchasing and supplies department should be to keep the supplies delivered to the schools in such a way that no child's education would be abridged or hampered in any way through lack of them. It is just as essential for the business officials of a school system to have educational vision and perspective as for the superintendent.

The basic financial document in any well organized school system is the budget. The compilation of this document should receive the best thought and effort of all administrative heads and the board of education itself. To the careful observer the budget of any school district will exhibit the financial ability of the business manager and the educational ability of the superintendent of schools and his staff. It will also indicate in a very large measure the intelligence of the board of education.

Every administrative head, supervisor, and principal should have a part in the making of the budget. Each one should budget for his department or building all needed supplies for

(Continued on Page 158)

SOME OF THE SCHOOL BUSINESS OFFICIALS OF THE UNITED STATES AND CANADA AT THEIR CONVENTION IN TORONTO, MAY 20, 1926.

THE AMERICAN
School Board Journal

WM. GEO. BRUCE
WM. C. BRUCE } Editors

EDITORIAL

WHO SHALL DETERMINE SALARY SCHEDULES?

In recent years there has been a growing tendency on the part of the professional workers in the schools of the larger cities to appeal to the state legislature for the fixing of salary schedules. The tendency received its impulse in the belief that the local boards of education were disinclined to provide adequate compensation and under the theory that the schools are primarily the concern of the state, the legislature was the court of last resort. Thus, in several states where city boards of education were disinclined or unable to make the requested salary increases, the state has stepped in to adjust them.

Some years ago it was found that in rural districts the wage afforded teachers in some of the rural districts of the several states was so niggardly as to demand legislative correction. A minimum wage was the result. In the cities, however, the compensation for teachers was more adequately fixed, and while too low in spots, was in the main deemed reasonable.

With the economic changes, whereby the purchasing power of the dollar, due to the world war, was greatly diminished, a complete readjustment of the salary schedules had to be undertaken. That this readjustment was somewhat slow of realization, and is not as yet in all instances completed, has become apparent. Hence, more appeals to state legislatures.

The teachers of New York City, feeling that their compensation had not been adjusted upon a prewar basis, appealed to the state legislature for an act whereby the payroll would be increased to the extent of seventeen million dollars. The measure, after being passed by the legislature, was vetoed by the governor.

The immediate cause for the veto was founded in the fact that another measure providing the means whereby the increase could be met, had been defeated. Hence, the governor held that it was useless to grant increased salaries if the means to pay them were not at command.

The thought advanced by the governor, however, which touches upon the vital principle involved in such legislation, was that the several local boards of education should not be deprived of the power to fix the salaries of their teachers. Furthermore, that the members of the legislature, many of which were from the rural districts, were not qualified to pass upon an intricate city salary schedule.

There is no question that a board of education is best able to determine just what salaries can and ought to be paid. There can be but one excuse to go to the higher authorities for redress, and that excuse exists only when it can be urged that local authorities wilfully ignore the equities involved in a salary readjustment.

In the New York case it was not conclusively demonstrated that the board of education was unwilling to bring the compensation upon a more equitable basis, but it was moreover the question of discovering where an increased revenue was to come from.

As stated, there may be instances where the school workers are justified in going over the heads of their immediate superiors in the matter of salary adjustments, but it cannot be held, on the whole, that such a course is entirely wise or just. It unquestionably tends to lessen the respect of the school workers for the authority that employs them.

The modern board of education, therefore, in order to obviate the humiliation of having some one else fix its salary schedules, should give careful consideration to the compensation of professional service and take pride in providing schedules that from every point of view, must be deemed equitable and just.

SCHOOL SUPPORT AND SOURCES OF REVENUE

The argument, that those who champion increased school support before legislative bodies must also come prepared to suggest the sources of revenue from which that support is derived, has been advanced in these columns before. The experience of recent years has strengthened rather than weakened the contention.

Instances have arisen where educators have, with remarkable ability, presented before law making bodies the need for more liberal financial support for the schools and then were at a loss to respond when the question of taxation came into the discussion. Other instances have come to the surface where school men failed to concern themselves in measures which make better school support possible.

An interesting situation arose in the New York legislature last spring. The Ricca bill which provided for an increase in the salaries of the New York City teachers amounting to approximately $17,000,000, was vetoed by the governor. He based his veto on the fact that the Cole bill introduced earlier in the session providing for a change in the taxation had been defeated. This measure was designed to increase the revenue of the state and thus make a more liberal school support possible.

The Ricca bill dealt with the question of school support, while the Cole taxation bill aimed to provide that support. Thousands of teachers urged the acceptance of the Ricca measure but had paid no attention to the Cole measure. Without the one the other was impossible.

The legislator who is asked to favor a measure appropriating large sums of money is inclined to look about and see whether the ordinary sources of revenue are sufficient to warrant increased expenditures. If the demand for more money overlaps the income, as fixed by tax rates and taxable wealth, the question may properly be asked: "Where is the money to come from?"

The assumption may be that while it is the duty of the educator to present the needs of the schools, it is clearly the function of the legislator to respond to these needs. This would mean that when the schoolmaster has presented the educational side of the case, it is up to the lawmaker to untangle the financial problem. But, the lawmaker seeks light from his constituency whenever he is confronted with an involved situation, and is inclined to ask the schoolmaster as well as other people just how the financial tangle is to be solved. As an interested party, and a man of high standing, the educator is called upon to respond.

A prominent legislator recently stated that the pressure for more state money came from two sources—good roads and the schools. The first carries the day because it is backed by the industrial and commercial interests. The second, he held, had a hard pull because it was backed by professional interests only.

It is becoming more and more apparent that those who champion a more adequate school support must go to the bottom of that subject and deal with the sources of that support, namely, dig into the subject of taxation as well. With the expansion of governmental service, the pressure upon the lawmakers is a heavy one, and equitable taxation methods become the prerequisite to adequate school support.

THE NATION'S SCHOOL COST SHEET

It may be safely stated at this time that the question of school finance has been discussed with greater intelligence and thoroughness in recent years than ever before. This has been primarily due to the mounting school costs and to the fact that the professional factors, in self-defense, have concerned themselves with the financial phases of school administration.

A taxpaying constituency wanted to know why the schools cost more money, while the politicians cried that in school expenditures the limit had been reached. The question whether the country could afford a greater outlay for education was widely raised and someone had to answer the question.

Leading educators turned aside from their professional labors long enough to give time and thought to the subject of school support and also to dig into the sources that must provide that support. They assembled pertinent facts and made out a good case in defense of the present intensive pursuits of popular education and established a justification for the cost thereof.

But, to justify the momentum which education has received and to prove that the price paid is not too high, still left one vital question open to debate, namely, can we afford the cost.

The answer to this all important question now formulated with completeness, is illuminating and sets forth the aggregate wealth of the nation, its yearly earning power, and its ability to buy and pay for both quantity and quality in education. The concrete facts brought to the surface are as follows:

The accumulated wealth of the nation is something like $350,000,000,000 (note we deal in billions), the yearly income about $70,000,000,000, and the earning or surplus about $10,000,000,000. In other words, the country is adding to its wealth at the rate of ten billion dollars annually.

If we now turn to the cost of education in the light of these figures, we secure a more complete view of the picture. We spend something like two billion dollars yearly for popular education, which is about one-fifth of our net income, less than three per cent of our gross yearly earnings.

The research experts of the National Education Association in a study just completed, have in a masterful way set forth the whole school finance question and have clearly demonstrated that modern education is not only worth all that is paid for it, but that the American people are not overburdened in paying the price.

"Education is the greatest productive force in modern civilized life," says the expert. "Upon this fact the justification of school costs should rest. The value of a form of human endeavor cannot be considered alone on the basis of its cost. To know that an industry costs two billions a year tells us nothing about its value to the community. This can be known only after we have considered the value of its product. This seems obvious, yet sometimes we find the aspiring politician assuming the opposite. He will say much about 'extravagant expenditures for education;' school costs will be condemned as 'more than the nation can bear;' all without any consideration of the product which results from school expenditures.

"The politician is wrong even when met on his own grounds. Society can afford present

school costs. School expenditures are such an insignificant levy against our total supply of economic energy that they are borne with ease, while greater and greater resources are available with each succeeding year for the development of our economic life. But this is not the worst error of such a critic of the cost of education.

"The product as well as the cost of an enterprise must be considered in determining its economic value to a community. If the product of education is large a heavy expenditure for the schools is the wisest sort of economy."

This presents the school finance question in its essential features from the national point of view. It goes without saying that there are localities where the efforts to maintain school costs are strained to their utmost. But, it is well to know that as far as the country at large is concerned there is no occasion for apprehensiveness over school costs. They are, on the whole, reasonably within the ability of the American people to meet them.

PRACTICAL PATRIOTISM AND THE VACATION PERIOD

The patriotic spirit of a people is usually aroused to its highest pitch in time of war, when the safety of a country is in danger. The exercise of a practical patriotism in time of peace is frequently only too perfunctorily fostered.

There are many conditions in school life and within the range of community activity in which practical patriotism may find immediate application, and at the same time serve as an object lesson to the youth. The citizen who decorates his home with the American flag on Washington's birthday and on the Fourth of July, cannot consistently neglect his front lawn, leave his walk in disrepair, maintain a hostile attitude towards his neighbor, ignore school elections and protest a just tax tribute.

The school that waves the stars and stripes from its masthead cannot consistently tolerate vandalism, the stoning of a passing vegetable vender, or the killing of birds, cruelty to animals, etc. The national emblem is more than a mere ornament. Its meaning must find expression in pupil conduct that spells applied patriotism.

During the summer vacation months, when children are free from the restraints of the school, school property is exposed to greater vandalism. The number of broken windows and defaced walls become more numerous during the vacation period than any other. The school officials who vote flags for the schools, and are at the same time called upon to pay heavy bills for broken window glass, realize the inconsistency between the one and the other.

No doubt, the boy students who recklessly commit vandalism would in time of war go forth courageously to defend their country. They simply fail to grasp the thought that there is also a patriotism of peace which respects the rights of person and property and which must be observed every day in the year.

THE ADVENT OF THE SCHOOL LUNCH ROOM

There is one virtue in the administrative effort expended upon the schools of this country which may be attributed to the spirit of enterprise. Whatever may be said about federal as against local support and control of the schools, the fact remains that the competitive idea which prevails between community and community has its distinctive value. It is the spirit of enterprise, which is an American characteristic that has led to many innovations in the school plant, some of them perhaps unwise, but on the whole, most of them eminently desirable and practical. Among the innovations of a comparatively recent period, the school lunchroom, which in some instances has developed into the cafeteria form, has proven a most acceptable one.

The gratifying part of this departure must be found in the efficiency which has gone into the installation, operation and maintenance which attends the modern school lunchroom. The element of science has gone into the kitchen and table service. The dietitian has here made a distinctive contribution. The general direction and control has been systematized and refined to a high degree.

The experience thus far gained has also pointed out some of the errors which have been made and the shortcomings which still exist. The lunchroom, however, as an adjunct to the modern high school and to many grade schools, has come to stay. That being true, it also follows that it must ultimately be brought to its highest stage of perfection. It remains to be said that the utility of the school lunchroom is no longer questioned. The privilege which the student has heretofore enjoyed, namely visiting a neighboring soda fountain and ice cream advantage of his physical well-being. Nor was parlor during the luncheon hour, was not to the it in all instances in the interest of his moral betterment. The thought of providing the students with warm, wholesome and nutritious food at moderate prices has generally been accepted.

The complaint is occasionally heard that the equipment has swallowed up too much money. The fact is that while a modern kitchen and serving equipment costs money, it is so highly utilitarian that the charge of extravagance does not hold. Science and mechanical skill have gone into the apparatus and devices employed in cooking, baking, and dishwashing, and in the end make for expeditious service.

The menus, as a rule, are prepared by expert dietitians. No one will question the nutritious value of the food served. In fact, the food provided for in the average school lunchroom is more carefully selected as to quality and variety than is done in the average home.

Among the experiences which have been gained in the field of school lunchrooms are those which relate more largely to the matter of administration. The concessionnaire plan has rarely worked out well. The school authorities must assume direct control in order to achieve the best results. The rule making it compulsory for students to remain in the building during the luncheon hour has worked well. They may bring their own lunch with them but they must not leave the premises during the lunch hour.

One of the more recent recommendations relates to the purchase rather than the selling of food. The prices must be kept somewhere near the popular money units. But, advantages are gained in making quantity purchase upon an annual or seasonal basis. And here experience teaches that a centralized purchasing agency will serve best. In other words, the same authority that buys the supplies and equipment for the schools can also advantageously contract for the food supplies that are sold in the school lunchrooms.

The economies effected are not in the interest of profit-making but rather for the purpose of enabling the maintenance of popular prices, and the accumulation of a replacement fund. It is generally agreed that a school lunchroom should be conducted upon a self-sustaining basis.

HOW EUROPE VIEWS ECONOMY IN EDUCATION

If the United States is at this time concerned about the cost of popular education and is seeking the manner of reducing them without impairing efficiency, it only follows that Europe is facing the same problem in much more acute form.

On the continent of Europe the retrenchment movement began with the reduction of the number of officials in the government service. Some of the countries had as high as one official for every five citizens. It became evident that the economic exhaustion which followed the world war could no longer sustain an over-developed bureaucracy, and that sweeping reductions in the personnel had to be engaged in.

That the policy of retrenchment would extend to the educational systems of the several countries was to be expected. In Germany the "Beamtenabbau," namely, the leveling movement, was forestalled by the educational forces in that they pointed out the serious consequences which would follow the crippling of the schools. The salaries of the professional workers had been low even before the war. To insist upon a reduction of the teaching forces and to engage in a further lowering of the wage schedule would prove calamitous.

It was pointed out in unmistakable language that the educational institutions must by all means be kept upon a high plane of service if the ultitmate rehabilitation and stability of the country was to be insured. This was deemed of primary importance, a viewpoint which the legislators reluctantly accepted.

In England the question of "economizing in education" has now been seriously proposed by the government. The burdens of taxation have reached a straining point and it is held that all branches of the public service must be subjected to the rule of retrenchment. In response to the proposal Mr. Phillip Snowden, a British statesman, says: "The last service that ought to come under the axe of national economy is the educational system. Parsimony in expenditure on education is the greatest form of national extravagance."

At a protest meeting called by the Workers Educational Association, the Bishop of Manchester, as reported by the Manchester Guardian, held that "there was need, of course, for economy in the public services; no one disputed that. If there could be discovered any points on which money was being wasted, that is, spent without due return to the nation in physical health, ability, and character, then by all means let that waste be stopped.

"But education was among the most fundamental needs of the country, that it was the primary public service, that they believed that our welfare and progress depended upon this more than upon any other one, and that it should therefore be the last to suffer in any curtailment of public expenditure.

"It was precisely the stoppage of educational facilities that he was concerned with. It did not concern him very much how the money was paid so long as the grant was big enough. But they know that developments had been checked, that schemes fully approved had been held up unless contracts had been entered, and they knew that that really represented a diminution of health, physical strength, mental power, and very likely moral character in the generation to come. We were economizing in the mental and physical health of our children, and that was the last region in which a nation which had either humanity or wisdom would make reductions."

In the light of the serious economic conditions which confront Europe at this time there must come to the people of this country a sense of relief in the thought that no curtailment, likely to injure the schools, will here be necessary. As the most prosperous country on the globe today, the United States can well afford to keep its schools upon the highest standards of efficiency. This does not mean that we can afford to engage in extravagance, but it does mean that America, from an economic point of view, can afford to realize her ideals in the field of popular education.

The Locker in the Modern School

Daniel V. Trapp

(Conclusion)

ARE LOCKERS EQUIPMENT?

Judging from the various plans used in buying lockers, there seems to be a doubt in the minds of both architects and school boards in general, whether lockers are a part of the school building or whether they are equipment. Some school boards place the purchasing of lockers in the hands of the general building contractor, others buy the lockers themselves, while some do both.

An interesting case came up not long ago where a school board, owing to lack of definite information, had two locker companies furnishing steel lockers for the same school and at the same time. To install these two makes of lockers required two separate crews of erection men. Naturally, the costs of lockers and of the installation were greatly increased. In this particular instance, the school board considered a part of the steel lockers,—those that were built in the corridors,—as coming within the jurisdiction of the general contractor, while those that were free standing, such as in the gymnasium locker room and the lockers for classrooms, etc., as equipment to be purchased by the school board.

This school board overlooked the savings which could be had from quantity production and quantity buying. In other words, they were paying more money for steel lockers because their purchase was split between two locker manufacturers, either of whom could have handled the one contract very nicely and at a considerable saving to the school board.

The experiences of many leading school boards would indicate that the most economical and satisfactory method of purchasing lockers is that of buying the lockers as equipment, direct and not through an intermediary. So far as lockers are concerned there should be undivided responsibility. The locker manufacturer should be directly responsible to the school board for the quality of material furnished. Then with the proper consideration given beforehand the quality of the material desired can be maintained. In other words, the school board can have what they order and what they want.

School boards know only too well the results of dealing with other than responsible contractors. Careful boards bear in mind that the basis of selection of a contractor must be made upon records of past service. Low bids must not be the whole or final consideration when placing business, unless the bidders have been carefully limited to entirely responsible men or firms.

Where it is absolutely necessary to purchase steel locker equipment through a general contractor, then the architect and the school board should definitely state which manufacturer's product is to be installed in the building. Under no circumstances should it be left to the contractor to shop around and buy lockers irrespective of quality, and to install those lockers which can be had at the lowest figure and at the most profit.

When specifying lockers, it is most desirable to adhere as much as possible to standard sizes and construction. This will assure a more satisfactory locker at the minimum price for highest quality. In a locker installation the elements of safety, convenience, durability, and beauty should not be ignored. Where they are ignored, the efficiency and economy of the school building suffer.

Seasonal Buying

If it can be avoided, lockers should not be purchased for manufacturing and installing when locker firms are handling their "peak" load. At the present time the locker business is seasonal, due to the fact that locker buyers rush in late in the spring to buy their lockers for installation during the summer months. This practice on the part of school boards causes unnecessary delays, unnecessary "peaks" for the manufacturers, and higher prices for the school districts. Leading locker manufacturers consider each locker order as a distinct manufacturing contract and, if buyers will give due consideration to this fact, much can be done to insure more satisfactory service and delivery, with minimum prices.

Erection of Lockers

The problem of locker erection often times seems perplexing to school board members and others who may not be fully familiar with the various methods used by the locker manufacturers in the installation of lockers.

The most economical method is to ship the lockers "knocked down" for erection at the point where the lockers are to be used.

The actual "setting-up" and placing of the lockers can be handled in various ways:

The work may be handled by pupils under the direction of the principal, the superintendent of schools, or the business manager. This plan has been applied in various Portland, Oregon, schools, and has proven quite successful and profitable to the pupils who did the work on a piece rate basis and at an economical cost to the school board.

Another plan is to have the lockers erected by local non-skilled labor, under the supervision of the principal, the superintendent of buildings, or others, either working on a straight hourly basis or on a piece rate.

A third plan is to have the lockers erected by local non-skilled labor on the open shop plan, but under the direct supervision of an erection superintendent supplied by the locker manufacturer. Where this plan is used, the expenses of the erection superintendent must be paid by the school board and are usually considered in the cost of the lockers. This may amount to as much as several hundred dollars on an installation made some distance from the factory.

Another plan used by manufacturers is to have the installation supervised by a representative or erection superintendent from one of their sales offices located in various principal cities. This is practically the same as plan 3.

A fifth plan is to have the lockers erected by union labor. This is costly and is necessary only in the larger cities.

A sixth plan would be to have the lockers shipped "set up," ready for placing in the proper rooms or corridors. This method has the disadvantage of a higher freight rate which often overbalances the resultant saving that

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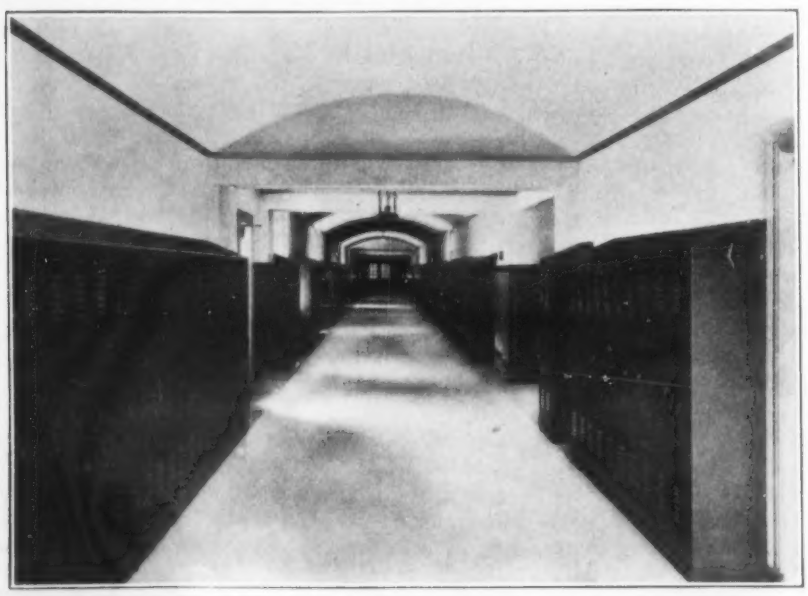

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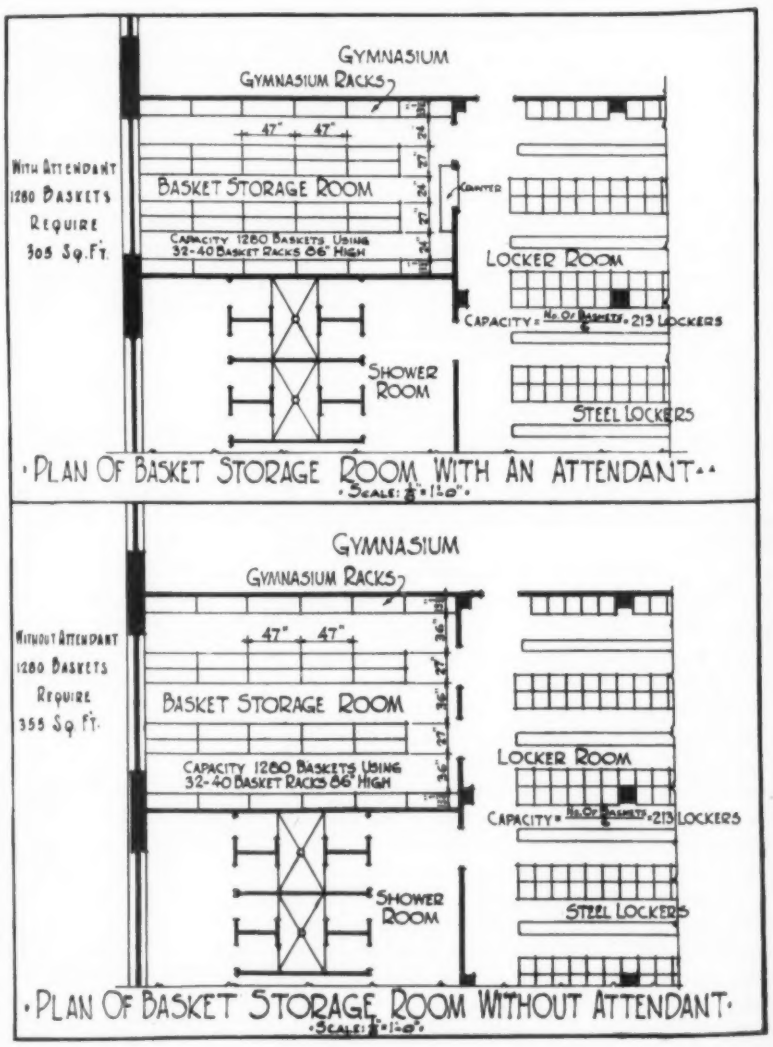

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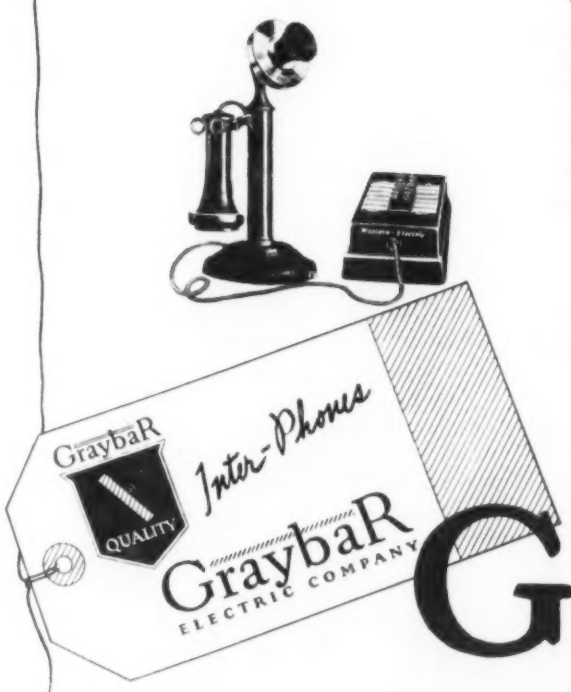

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THE LOCKER IN THE MODERN SCHOOL

(Concluded from Page 74)

could otherwise be obtained. Also, erection charges on lockers at the manufacturers' plant are often considerably higher than the same work could be done locally and supervised by the school authorities.

Owing to the simplified construction and accuracy of all parts of the leading locker manufacturers' product, the work of assembling is very easy and can generally be handled by the purchaser with non-skilled labor at the minimum cost, and without inconvenience.

In concluding this article, too much emphasis cannot be placed on the value of selecting, at the outset, the right type and size of locker to fit the individual requirements of each school building. The services of a locker engineer should be used to help prepare locker floor plans and layouts. Have definite quantities and specifications when asking for bids, and then, when the bids are open, and you are actually considering the purchase of locker equipment on a competitive basis, allow sufficient time for the locker representatives to demonstrate the adaptability of their product to your needs. Last, but not least, be sure you have taken the necessary time to investigate each locker manufacturers' former work and then you can know pretty well what they will do in supplying you with lockers.

Janitorial Service for Village and Consolidated Schools

A Study in Cuyahoga County, Ohio

An interesting study on the school janitorial service of Cuyahoga County, Ohio, was recently made by Principal H. W. Harshfield in collaboration with Joseph A. Baer, under the direction of County Superintendent, A. G. Yawberg of Cleveland. Mr. Harshfield is at the head of the Independence village schools, and Mr. Baer is the assistant county superintendent.

The study contemplates the qualifications of the janitor, the administration of the service, janitorial costs, duties and methods, and rules and regulations. A survey demonstrated that there were forty-two school buildings in the county varying greatly in size and equipment. Also that the custodial methods employed differ with location and other conditions.

In 27 schools, for instance, sweeping compounds are used, while in ten schools none are used. In 21 buildings the floors are oiled, in fourteen they are not. Usually floors are oiled twice a year.

In 35 buildings the ages of janitors range from 18 to 78 years. The median is 49 years of age. The janitors in 34 schools have been in their present jobs from one to 33 years. The median is three years. In the main, the janitors were drawn from the ranks of farmers, laborers, and mechanics. Very few are licensed engineers or firemen.

As to the length of a day's work, it was found that in 35 buildings the janitors begin their work during the morning hours from 3 to 8 o'clock; the median is 5:30 a. m. The same janitors get through with their work from 3 p. m. to 8:30 p. m.; the median is 5:30. p. m.

In most instances the janitor is recommended by the superintendent or principal and employed by the school board. While twelve janitors are directly responsible to the board, the balance are indirectly responsible through the superintendent and principal.

In an effort to rate the janitors as to their efficiency and their cooperation, various reports are secured. The larger number lend the necessary cooperation, and here it develops that better results are obtained where the janitor is directly responsible to the superintendent or principal. As a rule, they are weak in maintaining pupil order on the premises.

"The ratings are more satisfactory when it comes to preparing for school exercises, cooperating with teachers and principal, and in creating a wholesome atmosphere toward education in the community as well as in the school. It would also appear that janitors, as a rule, cooperate better with the principal than with teachers," says Mr. Harshfield.

Some of the reasons given for unsatisfactory relationships were: "Responsibility not placed," "poor health," "janitors quarrel," "too old," "board chore boy for the ruling faction," and "incompetent."

The investigator adds that better results are obtained where printed rules governing janitorial service are provided. He then quotes a Massachusetts report which reads as follows:

"Owing to wide variations in living costs, janitors' salaries differ greatly in different communities. . . . Every community should feel under obligation to pay salaries sufficient to secure and retain men suitable for janitorial positions. The importance of the position should be recognized. The janitor safeguards public property. This often involves much broad and technical knowledge along mechanical lines. He sets housekeeping standards. He should be a man of good moral influence. He has large control over the health condition of

(Concluded on Page 78)

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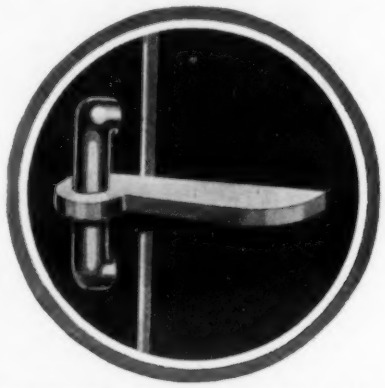

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A TRAINED REPRESENTATIVE IN EVERY LOCALITY TO SERVE YOU.

(Concluded from Page 76)

the pupils and teachers. He is an important factor in the matter of fire hazards and safety."

Cost of Janitorial Service

The size of the schools in Cuyahoga County varies from 28 to 1,056 pupils, and the cost of janitorial services ranges all the way from $225 to $8,525 per year. Basing the cost on the area schoolroom the same runs from 9.1 to 53.2 cents per square foot. The median is 16.2 cents per square foot.

The salaries paid janitors range from $25 to $275 per month for twelve months. The median is $135 per month. In twenty-seven buildings the janitors are hired for twelve months, in ten for nine months. The range in pay for night meetings is from $1 to $5 per night.

The cost of janitorial supplies, such as soap, towels, dusters, dust cloths, disinfectant, sweeping compound, brushes, brooms, toilet paper and anything else coming under the heading, ranges from 21 cents to $2.16 per pupil. The median is 69 cents.

In nearly all of the buildings, the rooms are swept daily, usually in the afternoon. In some schools the chalk trays are cleaned daily, in most of them weekly. The dusting is also done daily. Windows are usually washed monthly, and in instances, twice a year. Furniture and woodwork is usually washed once a year. In most schools the toilets are scrubbed daily.

Rules and Regulations

While the investigators recognize the fact that local conditions make it impossible to formulate uniform rules applicable to all schools, they recommend the following set of rules and regulations:

1. Wood floors should be oiled at least twice a year.
2. Classrooms, corridors, and rest rooms should be swept daily.
3. Auditoriums and gymnasiums should be swept after each function requiring their use.
4. Domestic science rooms should be swept daily.
5. Manual training rooms should be swept daily unless they are swept daily by pupils when they should be swept weekly by the janitor.
6. In order that the school building may be properly cleaned, janitors should be permitted by the principal to begin their classroom cleaning not later than thirty minutes after the close of the afternoon session. Corridors may be swept one-half hour before the close of the afternoon session.
7. Chalk trays should be cleaned weekly.
8. Blackboards should be washed weekly.
9. All furniture should be dusted daily.
10. Windows should be washed twice a year.
11. All furniture should be washed once a year.
12. Classrooms should be scrubbed once a year.
13. Wood and composition floors in corridors should be scrubbed once a month and tile corridors once a week.
14. Toilets should be scrubbed weekly.
15. Fixtures should be cleaned weekly.
16. Minor repairs not requiring skilled labor should be made as needed.
17. Supplies should be unpacked as received.
18. Furniture should be reset and moved as needed.
19. New furniture should be set up when received in small amounts.
20. The janitor should be responsible for the deportment of pupils in and around buildings and have the power and privilege to enforce all rules of deportment at any time and place in the schools or on the grounds, whenever teachers or principal are not present.
21. Desks should be adjusted as needed.
22. All walks and steps should be kept free from snow and ice.
23. The janitor should have charge of and display the school flag.
24. During the summer vacation the janitor should care for the lawn, clean the building, make or supervise repairs, and do painting, decorating, and other work on the grounds as directed by the board of education.
25. The janitor should care for all electric lights and fixtures.
26. The janitor should receive and store coal.
27. The janitor should receive other supplies when delivered at the building.
28. The janitor should look after pumps and other mechanical devices.
29. The janitor should keep the building open at night as directed by the board of education.

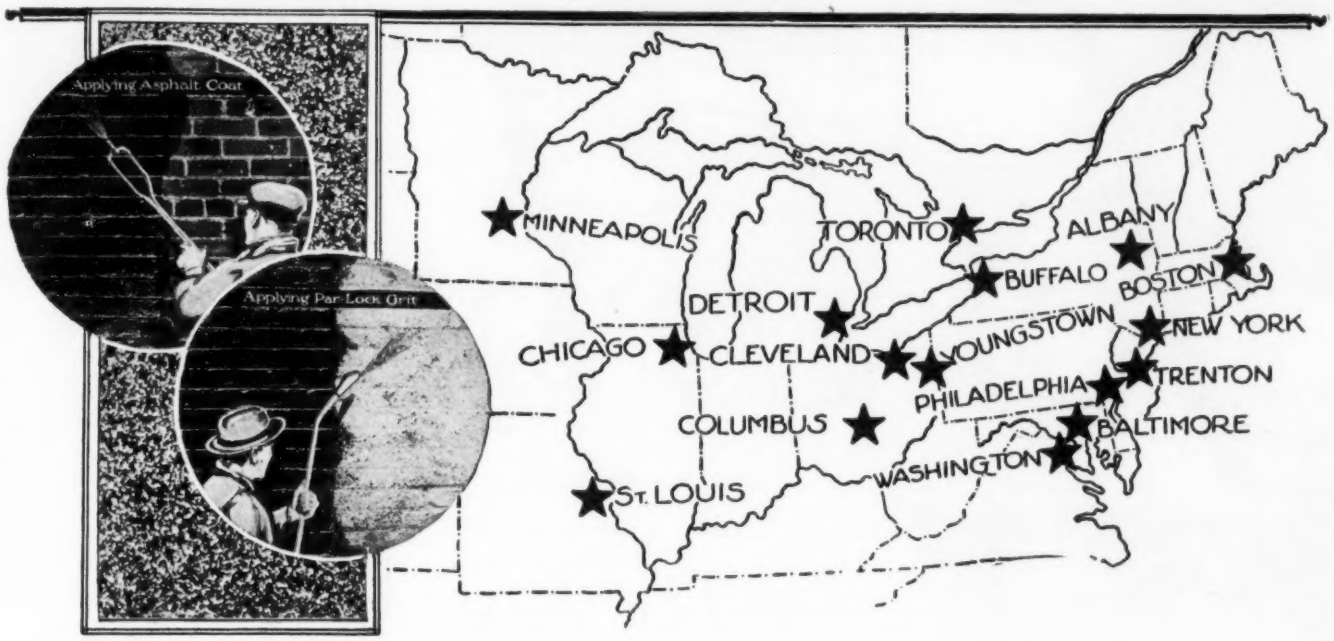
Education is simply the soul of society as it passes from one generation to another.
—Gilbert K. Chesterton.

RULES

—Somerville, Mass. The school board has adopted recommendations providing for the revision of the rules. The first rule provides that no persons except those appointed for the purpose by the board or those officially connected with the schools, may be allowed to give instruction or deliver lectures in the schools, except upon the approval of the superintendent.

The second rule provides that a child without suitable preparation shall not be admitted to the first grade after October first, and a child who becomes 6 years of age after December 31st may not be admitted to school until the following September.

The third rule provides that any child who moves from the city shall be allowed to finish the school year without the payment of tuition, upon the written request of the parent.



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damp-proofs your plaster and protects it from stains originating behind the plaster. Chemical reactions between concrete and plaster are checked. Cleavage is avoided because Par-Lock acts as an elastic cushion, adjusting the differences of expansion between plaster and its support.

For the job in which you hope to take pride ten years or fifty years hence, call in the Par-Lock Applier of your locality. His counsel, his estimates, his work are alike dependable.

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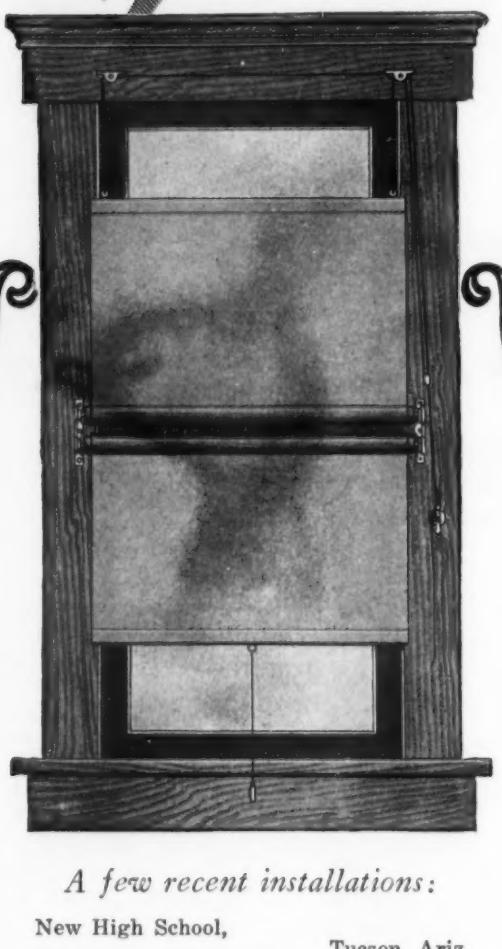
for Schools!



A few recent installations:

New High School, Tucson, Ariz.
Roosevelt High School, Rockford, Ill.
Moses Cleveland School, Cleveland, Ohio
Paul Revere School, Cleveland, Ohio
Thomas Jefferson School, Cleveland, Ohio
Shadeland School, Anderson, Ind.
Shorewood Village High School, Milwaukee, Wis.
Benjamin Bosse High School, Evansville, Ind.

"The Best Is Always The Cheapest"

The result of over 20 years' experience in the manufacture of window shades exclusively, Draper Shades represent the highest development in adjustable window shade construction. They embody every worth-while feature necessary to satisfactory operation and service.

Draper Adjustable Window Shades are particularly adapted to school use—because they're specially designed and built for just that purpose. They're easy to adjust—absolutely positive in action—any child can operate them without the slightest difficulty. And, they're "fool-proof," too — just can't be put out of order — because, they're made and guaranteed to withstand every abuse to which they might be subjected in ordinary use.

For your new school and for replacement in your old school, Draper Adjustable Window Shades will prove ideal equipment. They are truly an essential factor in health protection, and an invaluable aid in maintaining maximum classroom efficiency.

Draper Adjustable Window Shades are guaranteed to give satisfactory service and will continue to do so over a long period of years,—because they are built for service and meet every window shade requirement most satisfactorily, efficiently and economically.

Let us send you samples and quote you on equipping your building. There's no obligation connected with this service.

LUTHER O. DRAPER SHADE CO.

SPICELAND, INDIANA.

DRAPER ADJUSTABLE WINDOW SHADES MEET EVERY SCHOOL REQUIREMENT

The NORTON Closer With Hold Open Arms Is Best Suited For Schoolhouse Work

Use the Norton Liquid Door Closer with Hold-Open Arms and do away with door stop on bottom of door.

Every Schoolroom Should Have One

1st. The doors are closed with a uniform speed, which gives the pupils a chance to go through a door without getting caught or injured.

2nd. Having two speeds, the speed at the latch can be set for absolute quiet—no latch necessary.

3rd. The Hold-Open Device connected with the arm of the Door Closer is automatic, a child can operate it—just a push or pull on the door is all there is to do it. Does away with door stop, hook or strap to hold the door open.

SERVICE:—We have expert servicemen on call, free of charge.

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A Partial List of Schools NORTON Equipped

Skinner Junior High School, Denver, Colo.

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Cass Technical High School, Detroit, Mich.

Technical High School, Omaha, Nebr.

SUBJECTIVE VS. OBJECTIVE MARKING

Chas. A. Harris, Northboro, Mass.

For more than a decade we have been cognizant of the fact that school marks are unquestionably inaccurate due to fallible subjective judgment. And ever since we were uncomfortably jostled by the unwelcome revelation, we have snugly sat tight, scuffing along the line of least resistance.

Is there an educator today who calls himself sensible, just and progressive, who would tolerate, without protest, the recording of marks, which are to be scrutinized in after years, based upon subjective judgment?

With the great array of ways and methods accessible to all schoolmen, for basing all marks upon objective examinations, is there any reason, yea, any excuse for ever henceforth committing such wrongs against the pupils under our charge?

Subjective marking is as indefensible as would be the act of thrusting our hands into our pockets and pulling out whatever coins by chance one grasps for the payment of a purchased article—the vendor sometimes receiving too little, sometimes too much.

Let's end forever the time honored essay-type, the old-fashioned examination **so far as ever recording these marks against any pupils are concerned.** We have read, discussed and experimented as individuals. Shall we not as a unit put a ban on one of the wrongs we have inherited from the past? Again—in the aggregate, years have been consumed by teachers in marking papers, the scores of which have been as correct as: $2+2=9$.

COLLECTIONS IN SCHOOLS BARRED

Superintendent William McAndrew of the Chicago schools has denied the request of the many departments to solicit the public school children for contributions to the national fund for the restoration of the frigate Constitution. In comment on the action, the Chicago Tribune finds the same "right, democratic and wise."

In discussing the subject of official collections so frequently made in the schools, the same newspaper says: "Public schools are not places for the solicitation of funds for any project no matter how truly patriotic it may be. Children are not sent to school in order to be grouped into a body handy for the solicitor. The law says children must attend school. You cannot in justice require attendance if school means a place where children are to be asked for money.

"The public schools are for rich and poor alike. Subscriptions, no matter how voluntary they may be termed, are barometers of wealth, and no one feels so keenly as does a child such comparison of means as is inevitable if collections are to be taken up in the classroom."

A LEAVE-US-ALONE-WEEK

The board of education of Hartford, Conn., has taken a decided position against the efforts made to use the schools for propaganda purposes. The collections and essay contests introduced in the past have proven an interruption to the regular operation of the schools.

In line with thought that the schools have a definite function to perform, and should not be hindered in realizing the same, Superintendent Fred D. Wish, Jr., has suggested "A Leave-Us-Alone Week" as an antidote to propaganda movements aimed to be exploited in the schools. In a newspaper interview he recently said:

"Time and again people come here endeavoring to introduce some movement by appealing to the students. It is often hard to refuse for generally the purposes of these campaigns are in themselves excellent but we simply have to cut down and eliminate them so far as possible. A rule has been made that there shall be no soliciting of funds in the schools for outside interests. We have also stopped giving representatives of business interests lists of pupils, hoping to avoid any infringement upon their time. Sometimes the purpose merits a vote of special permission, though generally all requests of this sort are turned down. As I have sometimes phrased it, we need a 'Let Us Alone Week,' so the pupils can have time to do their regular school work without interruption."

OPPOSES LARGE SCHOOL BOARDS

The Nicoll bill providing an increase in the membership of the board of education of New York City from seven to fifteen members, was vetoed by Governor Smith.

"For years," said the governor in his veto message, "the board of education was made up of twenty-one members, and in 1917 it was reduced to seven on the ground that the old board was too large and therefore unwieldy. (At the time it was legislated out of office the old board of education was made up of forty-six members. Prior to consolidation the old city of New York had a school board of twenty-one members.)

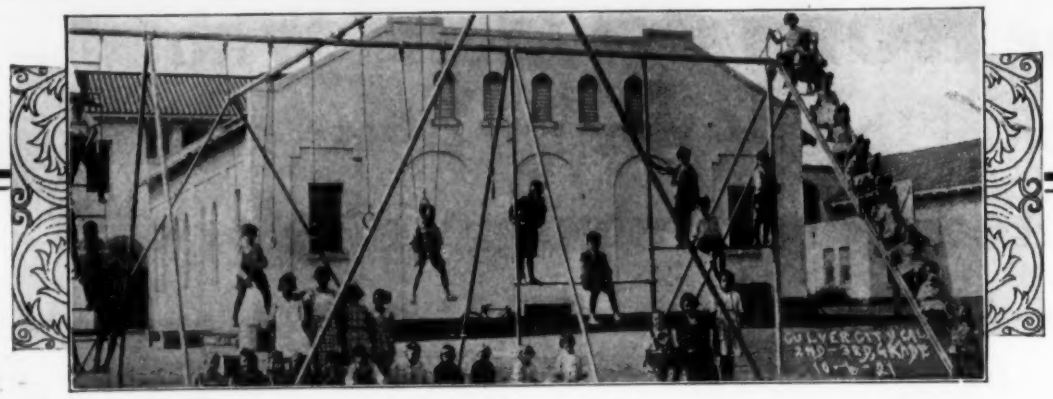
"There was a grave question in the minds of the legislators in 1917 as to whether or not seven was not too many," the governor went on. "I am satisfied that from the standpoint of efficiency it would be a mistake to increase the size of the present board of education. As to the other provisions that not more than nine shall at any time belong to the same political party, that seems to me to be injecting party politics into the makeup of the board of education. As far as their duties are concerned in the board of education, no member should think of what party he belongs to. Education is not a partisan thing, and we have been striving for years to keep politics out of all matters that have to do with education. This bill seeks to put it in. What reason can be given for it, I have no notion."

SCHOOL ADMINISTRATION

In his annual report, Dr. Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching attacks the "mushy sentimentalism" which, he declares, tends to reward effort rather than accomplishment and to hold down the standard of scholastic achievement to the ability of the mythical average student. As a remedy he advocates the establishment of "top sections" in the high schools, to which he would admit only students of proven intellectual superiority, selected by as rigorous a process as is followed by the coach in choosing members of a varsity team.

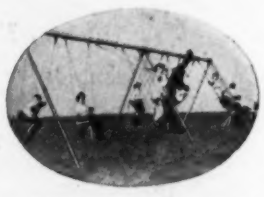
The number of one-teacher schools in 1924 was 165,417 in 48 states. This means a reduction of 10,028 over 1922. The number of consolidated schools in 1924 in 24 states was 14,913 which is an increase of 2,603 over the number reported from 43 states in 1922. The rate of increase in number of consolidated schools has been approximately 1,000 a year during the period from 1918 to 1924 and the decrease in the number of one-teacher schools during this same period has been more than 4,500 a year.

When Superintendent J. O. Engleman reported to the Terre Haute, Ind., school board



"The Hallmark of Quality"

Medart Merry-go-round — better than at the circus—the kids operate it themselves and it doesn't cost anything to ride.



Medart Chair Swing—made for little folks — but the bigger kids use it anyway—that's why Medart apparatus is built so solidly.

Safety - Service - Durability - Economy

Four requirements must be met in designing playground apparatus —Safety—Service—Durability—Economy. The Medart organization, with its wealth of experience, have built all these qualities into Medart Playground Apparatus. It is attractive to the children—safe for them to use, withstands use, abuse, wear and weather—is therefore the most economical to buy. Send for Playground Catalog M-5, fully illustrating the entire line and pointing out the superior points of each piece.

Also Manufacturers of Steel Lockers
See announcement on Page 115, this issue

FRED MEDART MANUFACTURING COMPANY
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New York Pittsburgh Cleveland Detroit Chicago San Francisco Los Angeles

that Miss Lottie Moorhead, a teacher, be dropped, President William F. Mendenhall moved that she be reelected. The motion carried. "Are you now going to revise the rules and take the nomination of teachers out of the hands of the superintendent?" asked Mr. Engleman. President Mendenhall then said that the rules provided that the superintendent shall nominate, but did not say anything about board members not making nominations. "Then that rule is a dead letter," said the superintendent.

—A department of child guidance has been organized in the schools of Newark, N. J. The department is to operate within the school system a child-guidance clinic, devoting most of its time to kindergarten children, but conducting also a service for the handling of older children referred to it. The psychological work of the school system will be carried on by this department. The department will study intensively children selected as problems on the basis of information furnished by the teachers.

—Consolidated schools are increasing steadily in Kansas. From twelve in 1920 they have grown to 172 in 1925, serving an area of 6,106 square miles. Enrollment in these schools increased from 14,289 in 1922 to 25,895 for the school year just closed; teachers increased from 590 to 1,269, and buses for transportation from 250 to 455.

—Richmond, Va. The state board of education has accredited 784 elementary schools in the state this year. This is a gain of 218 over the previous year. The state board distributes state aid to such schools on the following basis when they meet the requirements for standardization. To one-room schools, $150; to two-room schools, $225, and to schools of three or more rooms, $300. State aid is given to the counties for pupil transportation on the basis of 25 cents per pupil mile for every truck operated. A total of 1,081 trucks hauled 29,409 pupils during the session.

—The graduation edition of the South Bend, Ind., "Tribune" is the most elaborate attempt of the year in the field of school publicity. The edition contains over three hundred separate portraits of high school graduates. The front page carries an illustration of the high school and portraits of Supt. W. W. Borden, President R. B. Dugdale, Treasurer William Clem, Secretary Samuel B. Pettengill of the board of education, and Principal Joseph S. McCowan of the high school.

—A hall of living leaders has been formally opened by the Thomas Jefferson high school of New York City. Eight names were chosen as follows: Dr. Charles W. Eliot in the field of education, Jane Addams in the field of social service; Prof. Albert A. Michelson, pure science; Thomas A. Edison, applied science; Justice Oliver Wendell Holmes, government; Robert Frost, letters; Daniel Chester French, fine arts, and Walter Damrosch, music.

—Pawtucket, R. I. The school board recently voted to hold union graduation exercises this year but recommended that hereafter simple exercises be held in each of the schools. The action was taken to avoid an extra expenditure of money on the part of the parents of pupils.

—Cleveland, O. For the first time in years, there is no increase in school enrollment this year, according to M. D. Jones, commissioner of records. In 1919 there were 18,785 births and these children entered the schools for the first time last September. In 1920 there were 19,824 births and these children will enter the schools in September next.

—Bellingham, Wash. A special six weeks' summer course for seventh and eighth grade pupils will be conducted during the summer. The course will run for six weeks and will be in charge of a staff of four teachers. The four-quarter system has been adopted for the schools. Under a new ruling, the maximum of credit of 183 days' attendance will be allowed for apportionment purposes, regardless of the time of year the pupils attend.

—The prestige of the "little red schoolhouse" of one room is apparently vanishing, according to a study of 3,000 sophomore high school students in eighty Illinois cities, made by Lester R. Graham, research director of the state teachers' association.

Mr. Graham, in his report, shows that children educated in the one-room school have lost their distinction as a select group which they have enjoyed for years. They are being outclassed by their city mates who have been educated in the city and village grade schools. The study reveals that sophomores educated in the one-room country school made an average of 82 per cent in their work during the first semester of the school year. Their city mates, on the other hand, made an average of 84 per cent, thus reversing the status of the two groups.

The percentage of failures, it is pointed out, is nearly one-fourth more among those trained in the one-room school than among those in the city and village schools. The reason for the change in standing is attributed to the fact that so many country children are attending high schools.

—Cleveland, O. Summer schools will be held in 34 buildings this summer. About 12,000 pupils were enrolled in these schools last year, and about the same number is expected this year.

—Tacoma, Wash. Summer sessions will be held five days each week at the Stadium and Lincoln high schools. The schools are self-supporting as tuition is charged all pupils.

—State Comissioner F. P. Graves of New York state has assured the school districts of the state that there is no state-wide policy to consolidate the one-room schools. Mr. Graves points out that it is not now, and never has been, the policy of the board of regents or the commissioner of education to arbitrarily close all the one-room schools of the state. He points out that the education department has sought to relieve the local tax burden of the rural people for the support of the schools by obtaining more state aid for the maintenance of these schools.

Bridgeport, Conn. The school board has announced the schedule for summer schools in grades five to eight and the high school, beginning July 6th and ending with August 13th.

—Champaign, Ill. A more extensive summer school will be held this summer. It is expected the summer school enrollment will reach fifty.

—Findlay, O. A model school has been established at Van Buren by state and federal governments.

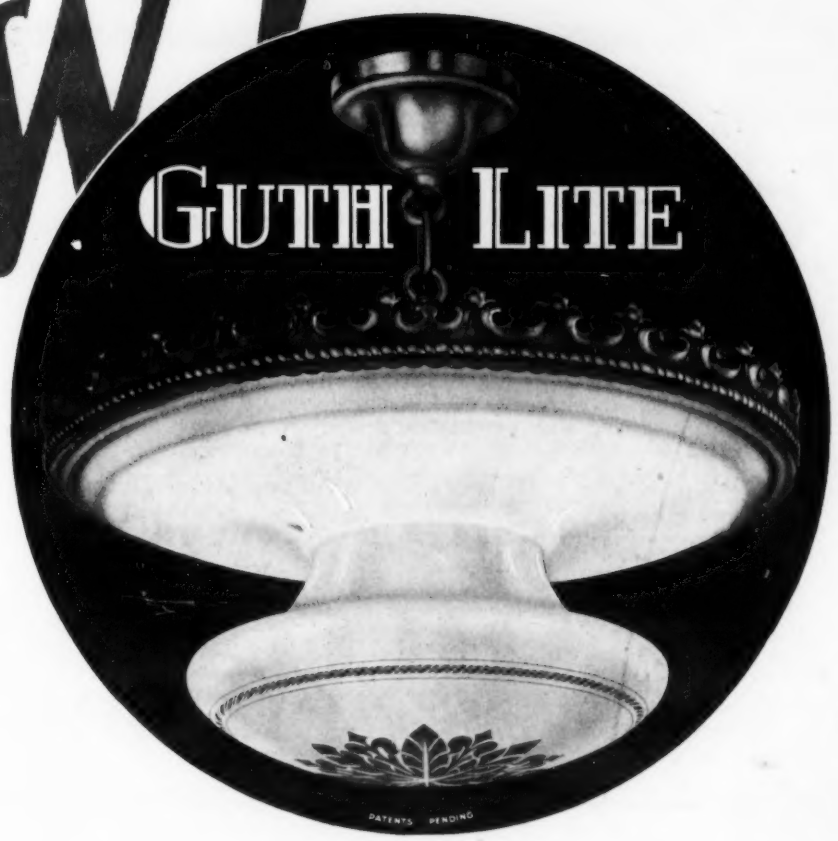
—The St. Paul School Bulletin quotes Dr. Engelhardt, in his paper on "Administrative Control in Public Education," and mentions especially three controls: (a) Legal controls; (b) internal controls; and (c) external controls.

(Concluded on Page 84)

Designed and made by the inventors of BRASCOLITE

Shadowless Ceiling Illumination

New!



Perfect Vision
Without Eyestrain

A Great Advance in School Illumination

Guth engineers, with wide experience in school lighting, have developed a new and better illuminator ideally suited to school needs.

GuthLite gives a glareless flood of shadowless, softly diffused light of maximum uniform intensity. Perfect vision without eyestrain. Illuminates a wide area, making fewer units necessary and saving in current consumption.

The reflector is adjustable. Regulating it up or down controls the direction of light vertically or horizontally. GuthLite actually controls and directs light!

A portion of the globe extends above the reflector, providing shadowless ceiling illumination.

Canopy, hanger and ornamental metal band are finished in Antique Bronze. Reflector is white porcelain enamel with Ivory band. Plain and ornamental types. Easily, quickly installed. Globe is quickly applied or released. Cleaned in a minute. Note the surprisingly low prices.

Consultation with Guth engineers will prove profitable. Write for folder illustrating the various styles in which practical, better illumination is combined with striking beauty of design.

Prices and Sizes:

Watts	Skt.	Dia. Ref.	Glass Size	Plain Ref. Plain Glass No.	Plain Ref. Plain Glass Price	Plain Ref. Dec. Glass No.	Plain Ref. Dec. Glass Price	Orn. Band Dec. Glass No.	Orn. Band Dec. Glass Price	Orn. Band Plain Glass No.	Orn. Band Plain Glass Price
75 to 150	Med.	12½"	8⅜" x 4"	B2820	$ 5.90	B2823	$ 6.45	B2826	$ 8.10	B2829	$ 7.55
200	Med.	17"	11⅜" x 5"	B2821	8.35	B2824	8.90	B2827	11.10	B2830	10.55
300 to 500	Mog.	21"	14⅛" x 6"	B2822	11.65	B2825	12.80	B2828	15.60	B2831	14.45

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DESIGNERS - ENGINEERS - MANUFACTURERS
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MORE LIGHT WHERE MOST NEEDED

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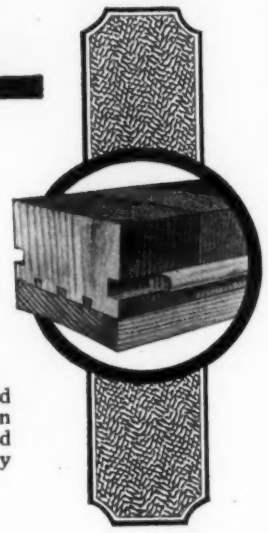

Bloxonend is an absolutely safe flooring for gymnasium use. It remains smooth, but never becomes slippery—the end grain corrugations providing a firm, safe tread. No splinters or slivers with Bloxonend—the menace of dangerous injuries eliminated.

There is a resiliency to Bloxonend — that while not noticeable to casual observation—is appreciated by players. Bloxonend makes an attractive floor, its light color harmonizing with gymnasium equipment.

Bloxonend comes in 8′ lengths and is laid much like ordinary flooring. Installed in many of the country's finest schools and specified for gyms, shops and corridors by prominent school architects.

Write for a copy of Descriptive Booklet "A"

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(Concluded from Page 82)

By the term "legal control" he has reference to the legal basis upon which the schools of the community are operated. A study of this aspect of control raises the questions: Where does the authority for schools originate? How do those to whom authority is delegated obtain their office? What specific powers are granted to these persons? Under what specific limitations must they organize and operate the schools? What authority is delegated to others by them?

Closely allied with the legal controls are the meant means of organization and the rules of procedure functioning together to make possible the development of an efficient staff. If the superintendent is hedged about by a bad set of rules governing appointment, tenure, salary, promotion, training in service, and assignment, an inefficient staff is the result. If, on the other hand, rules of procedure are drawn in terms of sound administration principles, an efficient staff is the result.

By external controls are meant precedents already established as the results of unsound educational principles of administration sometimes inherited by the superintendent from a previous administration. The public's response to the existing scheme of education measured by the financial capacity of the community to respond is probably the most far-reaching of the external controls of school administration.

—Child workers in the sugar beet fields of Wisconsin are protected by Wisconsin child labor laws. An order issued by the State Industrial Commission, issued under authority of a statute enacted by the Wisconsin legislature of 1925, limits the hours of children's work in the beet fields to eight a day and 48 a week, forbids their employment between the hours of seven in the evening and seven in the morning, and prohibits children under 14 who have not completed the eighth grade from working during school hours.

—New Britain, Conn. The members of the graduating class of the high school appeared in gray caps and gowns at the commencement exercises.

—New York, N. Y. Under a recent ruling of the board of superintendents, high school principals must compute the pupil capacity of their schools by multiplying the number of home classrooms seating 35 students by 44. It was pointed out that in making full use of rooms not counted as home rooms, the actual seating capacity of the school may be increased by 25 per cent, raising a classroom seating capacity based on 35 seats to a room, to 44 seats to a home classrooms.

The capacity of most home rooms is 35 pupils, but each teacher in such a room can act as the official teacher for about 25 per cent in excess of this number, that is, for 44 pupils.

Pupil capacity is, therefore, determined by multiplying the number of home rooms by 44. Pupil capacity will be used as the basis for planning stairs, corridors, exits, toilets, gymnasiums and other features of the buildings and for computing pupil costs.

The following rooms are to be considered as home rooms in an academic high school:

"Biology classroom, biology laboratory, bookkeeping (commercial room), chemistry recitation room, classroom, commercial geography, cooking room, drawing room, dressmaking room, general science room, library classroom, millinery room, music room, office practice (business practice), physical geography (physiography), physics lecture room, physics recitation room, sewing room, stenography, typewriting, home nursing room and hygiene.

"The 'home' rooms are to be considered as 'home' rooms in computing the capacity of any high school in which they occur. In technical schools where a large proportion of the rooms are shops or special activity rooms, it has not yet been decided which of these are to be 'home' rooms. Wardrobe accommodation for forty-four pupils must be provided in or near each 'home' room."

—Mt. Gilead, O. An opportunity school for members of the senior class of the high school who failed to pass their examinations will be conducted under the direction of the school faculty. Of the 38 members in the class, 28 received diplomas and nine failed to complete the work.

—Keene, N. H. Two thousand boys and girls, students in the grammar, high, normal, and parochial schools of the city paraded the streets on May Day in observance of "National Child Health Day." The demonstration greatly impressed the citizens who witnessed the procession of floats and groups of pupils depicting different phases of school and city health work. The Wheelock School won the first prize, a five-dollar gold piece, for the best display.

—New York, N. Y. An increase in part time for pupils in the high schools of Brooklyn and Queens Boroughs, and a decrease in Manhattan Borough are disclosed in a report made to the board of education by Supt. W. J. O'Shea. The report shows that there were 54,310 pupils on part time in Brooklyn and 38,314 in Queens Borough. There were 125,636 on part time in Manhattan, or a total of 218,260.

Dr. O'Shea points out that 44 new structures and eleven additions were opened this year, providing 91,548 sittings. Eleven of the new buildings were elementary schools in Brooklyn, with 24,662 sittings, and eleven were elementary schools in Queens, with 21,819 seats. These reduced part time in Brooklyn 16,334, and in Queens 7,311. In Brooklyn, the elementary school situation is well under control, the report indicating 11,413 fewer part time students than one year ago, although in Queens, it has increased 1,666.

The report shows that in the elementary schools of the city as a whole, the drop in part time was 16,240, and in the special schedule 26,109. In the high schools, with an increase of 10.491 students, part time has risen 4,045, although double sessions have decreased 14,026.

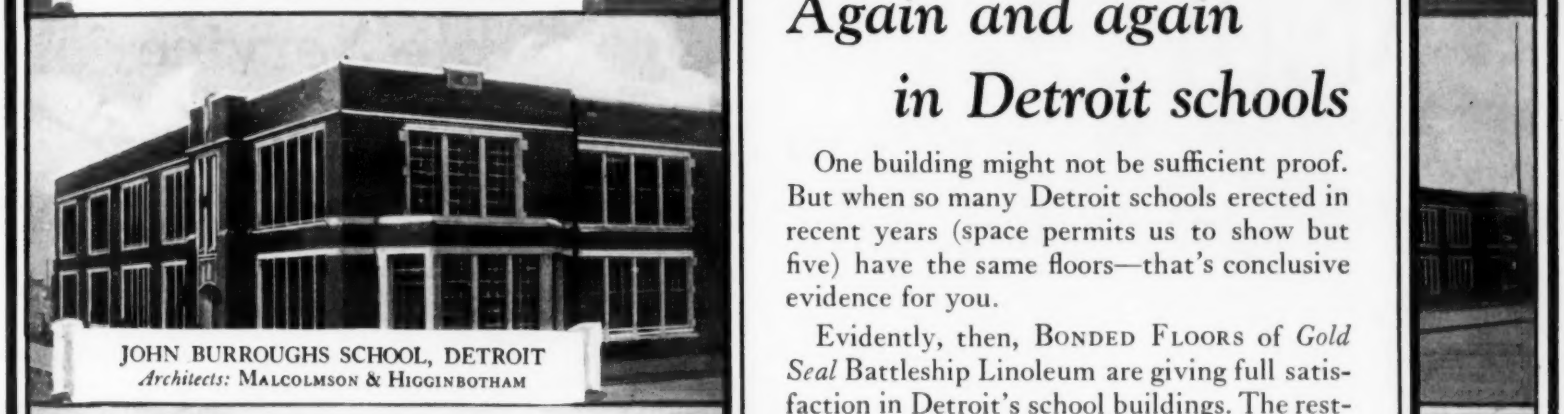
—A supervised play program is being carried out in Las Cruces, N. Mex., under the auspices of the local men's clubs.

—Oklahoma City, Okla. A summer school of eight weeks has been opened.

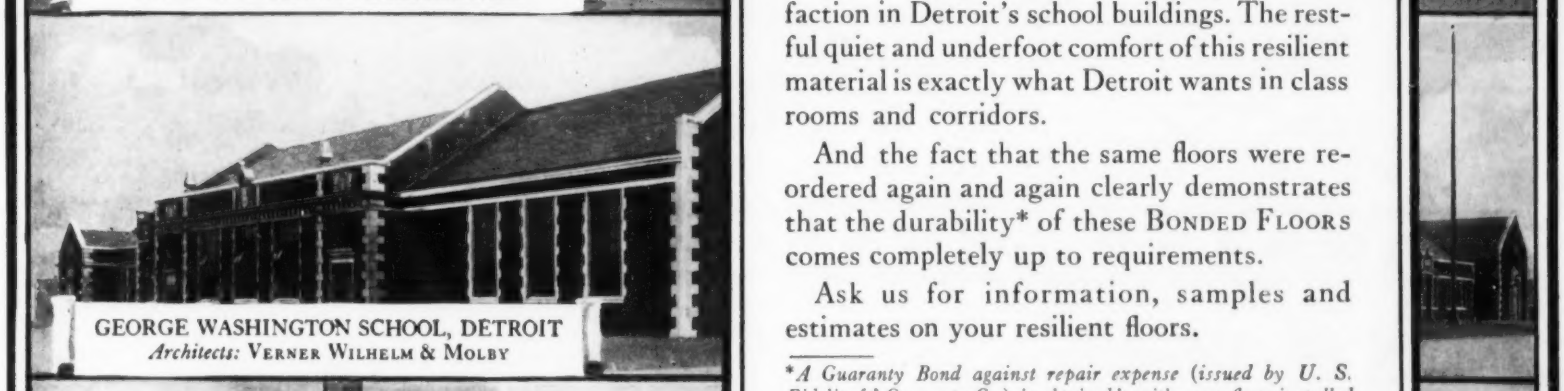
—Arkansas City, Kans. A six weeks' summer school has been opened for the benefit of pupils who need extra work to complete a year's course.

—Hartford, Conn. The school board has been asked to approve a plan providing for the appointment of a senior principal and three deputy or district principals, each of the latter to be in direct charge of one of the three high schools, and the senior principal to be supervisor over all three schools. The change is intended to effect a union of the administration and supervision of the three high schools.

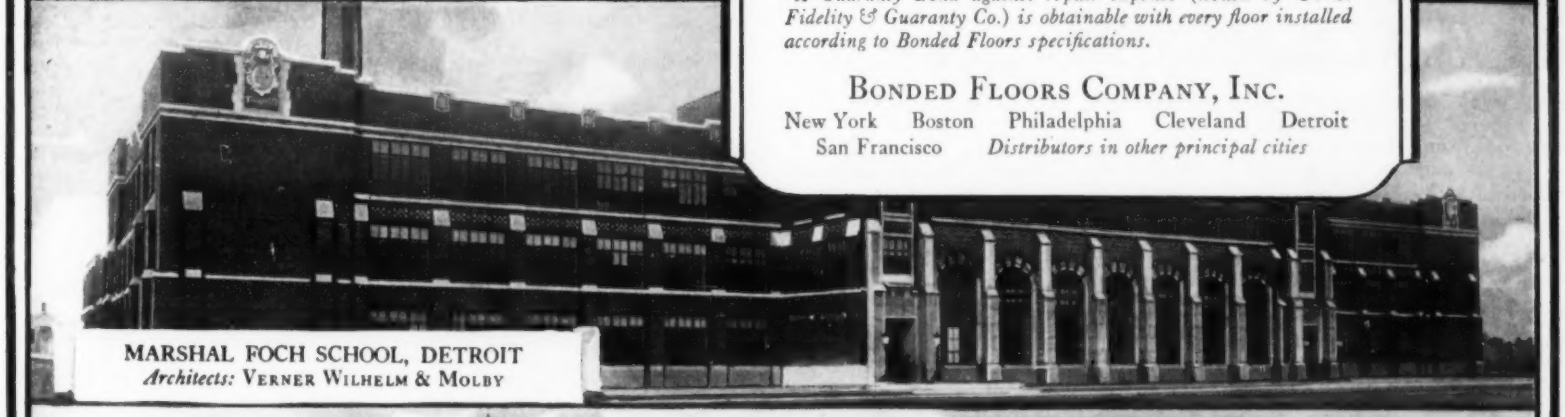
ROOSEVELT SCHOOL, DETROIT
Architects: MALCOLMSON & HIGGINBOTHAM



JOHN BURROUGHS SCHOOL, DETROIT
Architects: MALCOLMSON & HIGGINBOTHAM



GEORGE WASHINGTON SCHOOL, DETROIT
Architects: VERNER WILHELM & MOLBY



MARSHAL FOCH SCHOOL, DETROIT
Architects: VERNER WILHELM & MOLBY

ROOSEVELT HIGH SCHOOL, DETROIT
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STANDARD for EDUCATION SINCE 1895

NEWS OF THE SCHOOL BOARDS

CHICAGO SCHOOL BOOKS BY CHICAGO TEACHERS

The question of permitting the use of textbooks in the schools of Chicago, written by those employed in the school system, has been under discussion for some months by the board of education. One of the members of the board contends that the use of such books is illegal, and that undue methods had been employed by local authors to secure recognition for their books.

While there have been conflicting legal opinions on the subject, the weight of these opinions seems to favor the local authors. As to the charge that undue methods had been employed, no evidence, beyond an indiscreet stray remark by some teacher, has been advanced.

As far as public opinion is concerned, it is found that authorship by local teachers is encouraged. The Union League Club has petitioned the board of education to continue the practice of permitting the use of textbooks prepared by members of the school system. The Woman's City Club has asked the board "to keep open this avenue of unified effort between the teaching force and the pupils" and to extend "encouragement to such instructors as are capable of doing this type of work."

The District Superintendents' Association took up the allegation as to the question of ethics involved in the subject and the specific indiscretion charged against teaching and supervisory forces. The charge narrowed itself down to one textbook and one author. And, here it was found that the book was written in response to a request made by a committee of principals organized during the administration of Superintendent Mortenson.

The association found that the authors in the assignments of their royalties had complied with a common usage of Chicago for many years, and that when objections had been made by a board member in the case of the present text, the assignees had offered the royalties to the board or to any educational or charitable society designated. The original assignment of royalties had been made in accordance with the usage in force for many years, and at the suggestion of the then attorney of the board. The association urged that this author be not singled out from those whose textbooks had been properly recommended and accepted by the board.

Supt. William McAndrew advised the board of education that adoption of textbooks on recommendation of the superintendent was entirely legal. He also contended that "it is a universally accepted principle that texts should be fitted to the capacity of pupils in different localities. The persons best qualified to prepare such texts are authors familiar with the communities."

He submitted opinions by a former attorney of the board of education and by another attorney versed in school law and a former board member, to the effect that the retention of books written by local teachers violated no law. He also showed that other cities in Illinois, operating under the same state law, are using texts prepared by their own teachers.

The school systems of New York, Boston, Philadelphia, Washington, Detroit, Kansas City, Minneapolis, San Francisco, and other large cities are using the texts written by their own teachers and superintendents and encourage such use. When the Boston school board some years ago considered the proposal to bar Boston books from the Boston schools, the measure received but one vote. The proceedings rejecting the proposition contained this memorandum: "The board of education feels that teachers might well be encouraged to write textbooks. The reputation of schools is enhanced by such work. Instruction in the city schools is made more efficient. The results are a satisfactory return to the city, and far outweigh the small royalties received by the authors through the sale of their books."

The Chicago board of education has suspended further adoption of texts by local authors pending a study of the legal and administrative phases of the subject.

AMONG BOARDS OF EDUCATION

—The Stevens County, Washington, school directors' association met at Chewalah with President W. R. Lesley in the chair. The program included addresses on "Better Schools and How to Get Them," by F. Leo. Grinstead, secretary of the Colville school board; "School Finance and Budget Making," by County Superintendent J. B. Hergesheimer; "School Equalization Fund," by Mrs. Blanche A. Nagel, state department of education; "Proposed and Needed Legislation," by President Charles W. Cahill of the state school directors' association; "County Unit Plan of Taxation," by President W. R. Lesley.

—Col. E. B. Ellicott was reelected president of the Chicago board of education. Julius F. Smietanka was reelected vice-president.

—The school election in District No. 16 at Canon City, Colo., developed a fracas. The purpose of the meeting was the election of a president for the school board. Mrs. O. K. Rupp received 21 votes and Jacob Herschner 20 votes. When the ballot box was opened, it was found that only 39 votes had been cast. It took two deputy sheriffs to maintain order. The result will be contested in the courts.

—Patrick F. King, president of the board of education of New Britain, Conn., is a manufacturer who has for many years given up a part of his time for the public good. He served for a time as chairman of the local police board and as a member of several civic organizations.

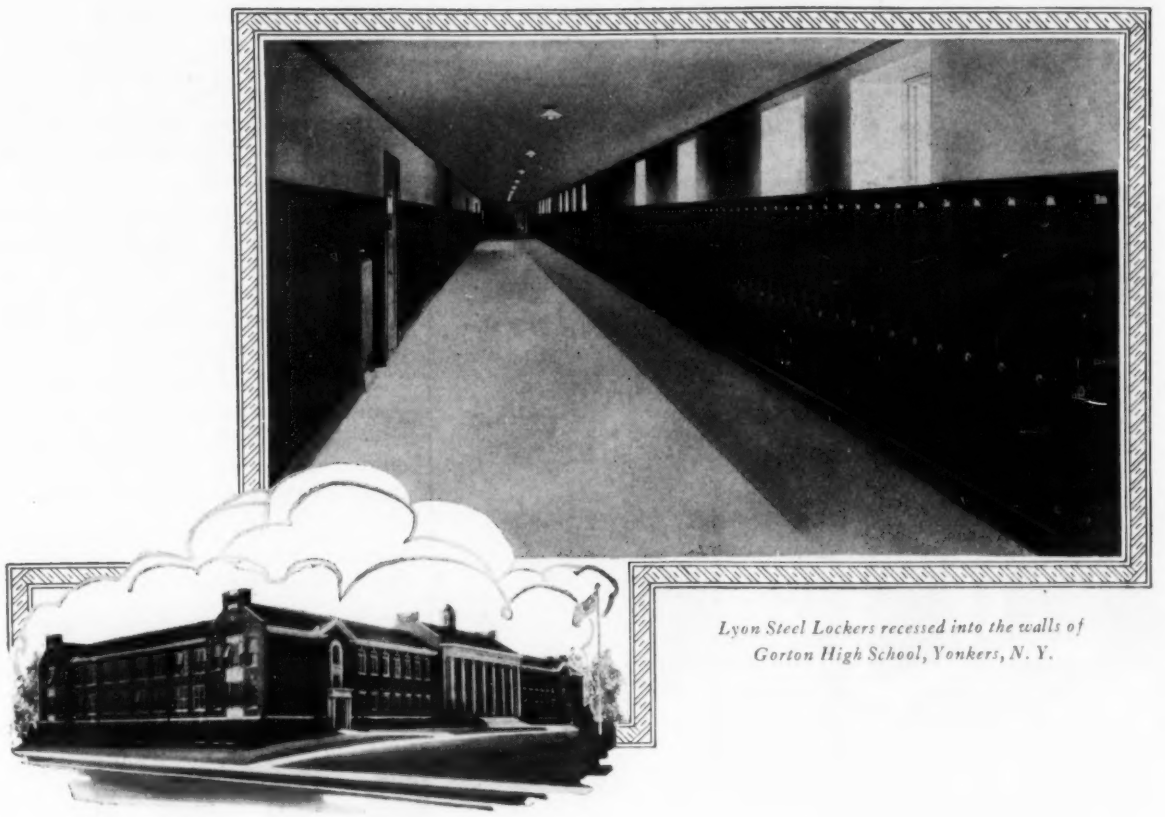
—At Jefferson City, Mo., the officers of parent-teachers' associations have attempted to influence the school board in the appointment of teachers. The Post of that city says: "There is serious question about the propriety of self-appointed persons or groups injecting themselves into the selection of teachers, which is supposed to be made by the board on the basis of merit alone."

—The board of education of Dayton, Ohio, has chosen John W. Graham as its business manager. The Dayton News, which is antagonistic to the board, says: "The tragedy is not the squabble which has ended finally in Mr. Graham's selection, but in the show the board has made of itself; a showing that a majority of its membership, at least, is without vision or grasp of responsibility to direct the vast expenditures which must be made, much less to be entrusted with the welfare of the growing generation."

—The New York City board of education has decided to exercise censorship over all speakers permitted in the public schools. The socalled American Civil Liberties Union, which supports

(Continued on Page 88)

LYON STEEL LOCKERS



Lyon Steel Lockers recessed into the walls of Gorton High School, Yonkers, N. Y.

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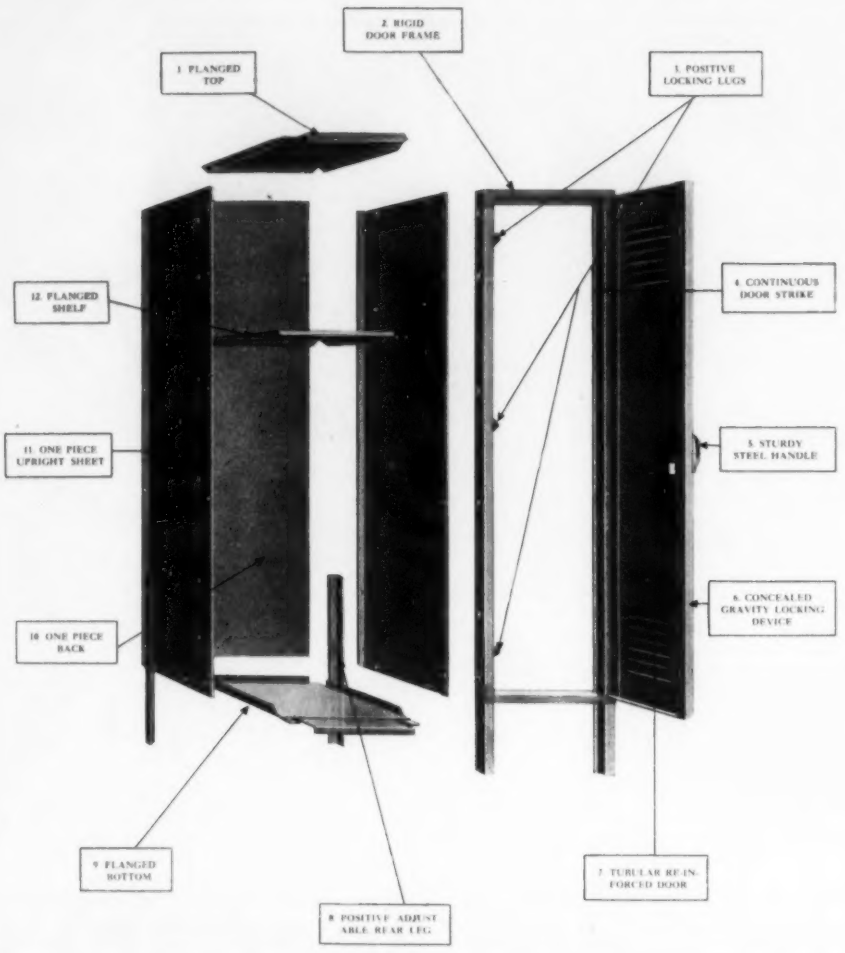
2. RIGID DOOR FRAME
1. PLANGED TOP
3. POSITIVE LOCKING LUGS
12. PLANGED SHELF
4. CONTINUOUS DOOR STRIKE
11. ONE PIECE UPRIGHT SHEET
5. STURDY STEEL HANDLE
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BERLOY
STEEL LOCKERS

(Continued from Page 86)

communism, birth control and the right of aliens to argue the overthrow of government, was denied the privilege to present its speakers in the public schools.

—The Cincinnati, Ohio, board of education has abolished the contract system of janitor service. Hereafter all school janitors will be appointed by the board and placed under the authority of W. C. Handman, business manager. It is believed that, with the cooperation of the principals, the janitor service can be much improved.

—The Seattle, Wash., school board granted the use of a school hall for "wet and dry" debate. E. Shorrock, a member of the board, held that the bylaws of the board forbade the discussion of political or religious questions in the schools. "I don't think a prohibition argument comes under those headings," declared O. B. Thorgrimson, another member. "Let them go ahead."

—At Richmond, Texas, the board of education and the local parent-teachers' association met to discuss the construction of a teacherage. One of the problems that confronts almost every community in Texas is the housing of its teachers. In a great many of the smaller towns and communities where boarding facilities are limited, and rent property is scarce, teacherages have been built and either rented or given to the teachers for a home while teaching school. The high school domestic science class served the party with a three course dinner.

—The school board of Gentry, Ark., held its annual dinner meeting recently. The meal was served by the domestic science class of the high school.

—The Fall River, Mass., school committee raised Secretary Alfred R. Langlass' salary from $2,500 to $2,800. The committee was unanimous in its judgment that Mr. Langlass was a highly competent secretary.

—John J. Bryers and Alexander Kennedy are the new members of the Solvay, N. Y., board of education. The other members of the board are I. A. Sidnam, F. J. Darrow, and R. E. Porter. C. A. Duvall is the superintendent.

—New York, N. Y. The board of education recently upheld the censorship of speakers and speeches in the schools, and as a result, court action is expected to test the board's right to keep out individuals and organizations.

The board upheld Supt. W. J. O'Shea and Eugene C. Gibney, director of extension activities, in their decisions as to who may not speak in schools, denied the application of the American Civil Liberties Union for a meeting in one of the high schools, and paid a tribute to the sincerity of Samuel Untermeyer, who had shouldered the fight of the Union.

Supt. O'Shea informed the board that he had read the purposes of the American Civil Liberties Union and added that in view of those statements and Mr. Gibney's report, he was not convinced that the society should use the school. The board adopted a resolution that the action of Supt. O'Shea be approved and that the application of the Civil Liberties Union for the use of the school be denied.

—Sedalia, Mo. The school board has adopted an economy program in which strict economy will be effected by the elimination of a number of supervisors and a reduction in manual training work. It is also planned to reduce the number of teachers to be employed next year.

—Yakima, Wash. Division of grade pupils into their mental grades, so that they may progress according to their speed of learning, will be extended to two further schools next fall, under a decision of the school board. The plan has been in successful operation in four schools during the past year.

—Toledo, O. Supervisors for playgrounds throughout the city will be furnished by the board of education, and the safety council. A safety patrol guard will be in charge where traffic is dangerous.

—Cambridge, O. The Guernsey County Court of Appeals has affirmed a decision of the Common Pleas Court, in which a judgment was rendered for $20,000 in favor of the board of education against the New Amsterdam Casualty Company, surety for the Uncapher Welsh Construction Company. The latter erected the Cambridge Junior High School building.

—Jackson, Mich. Under new rules adopted by the school board, teachers and pupils in the schools may not take part in drives. The sale of anti-tuberculosis stamps at Christmas time is the one exception to the rule. According to Supt. E. O. Marsh, much time is wasted each year by pupils taking part in special weeks, drives for various funds, and seed selling for out-of-town firms.

—Struthers, O. At the request of the school board, an investigation has been begun into an alleged short weight of coal delivered to the city schools by a local coal dealer. It appears that a checkup of coal delivered to one of the schools revealed that out of four loads weighed, shortages were found in each totalling several tons.

—St. Louis, Mo. The school board has voted to begin the reorganization of the department of instruction. Under the plan, the number of assistant superintendents will be reduced from six to three, and five more divisions for special functions of school administration will be added.

—New York, N. Y. The printed report of the Friedsam Commission on school finance and administration indicates that the Commission favors elected school boards but that it is committed to no definite policy so far as New York City is concerned. Dr. F. J. Keller, secretary of the commission, submits a memorandum on the general superiority of elected and financially independent school boards. Cases are cited to prove that an elected board spends its money economically and gets better results than one appointed by the Mayor, which must come to the municipal authorities for its funds.

The Commission, in referring to New York City, makes this statement:

"With regard to the city of New York this commission considered carefully the difficulties of an election. The immense population, the diversity of interests in the separate boroughs, the expensiveness of elections, the difficulty of securing proper nominations, were all weighed. Expert opinion was sought from Professors Grover C. Morehart, George D. Strayer, Paul R. Mort and Albert R. Shiels.

"There seems to be no feasible plan for independent control of financing except on the basis of an elected board. There is no reasonable expectation of independence or actual control for financing of schools in any but an elected board."

The commission does not, however, come out with a definite declaration in favor of an elected board of education for New York city. It is known that some of its members were strongly in favor of such a board, while others were

(Continued on Page 91)

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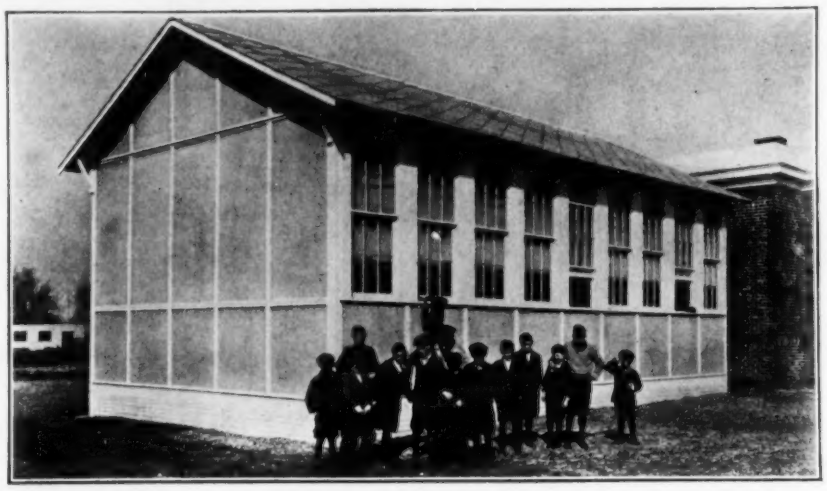

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Now that all of the 150 portable buildings which we ordered from you have been erected and are being occupied, I wish to express to you our deep satisfaction with the way in which you have handled our orders. From the very beginning you have spared no time, trouble or money in your efforts to get these buildings to us despite the unusual congestion of freight into Florida during the past fall and winter. You have done everything that you have promised to do, both in your verbal and written communcations.

We have never had business dealings with any company that has been more alert to our needs and has responded more to our requests than has the Asbestos Buildings Company. It has certainly been a pleasure to deal with a company so anxious to give real service.

Very truly yours,

Chas. M. Fisher
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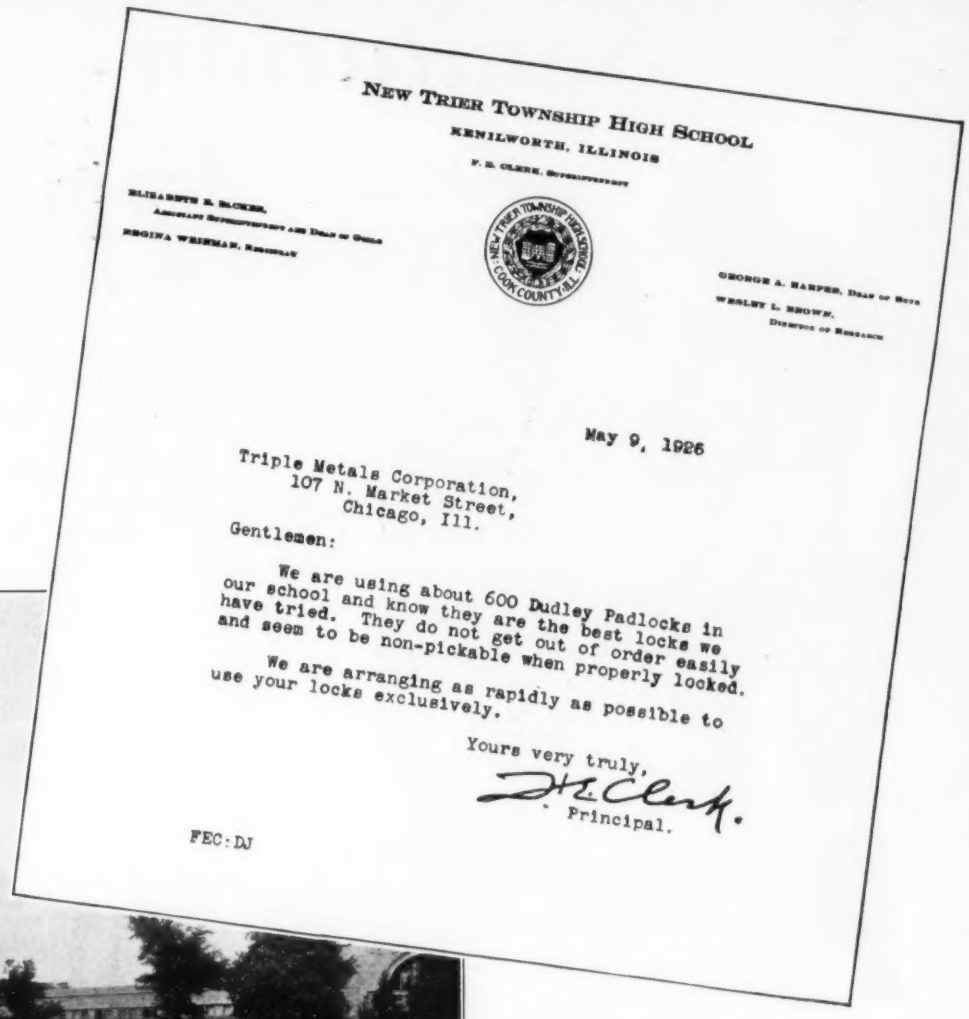

NEW TRIER TOWNSHIP HIGH SCHOOL
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We are arranging as rapidly as possible to use your locks exclusively.

Yours very truly,
F. E. Clerk.
Principal.

FEC:DJ

NEW TRIER TOWNSHIP HIGH SCHOOL

(Continued from Page 88)

afraid that if the school board here were made elective, politics would be injected into the schools to even a greater degree than at present. The statement quoted from the report is believed to be the outcome of these conflicting viewpoints.

The commission is convinced, however, of the advantages of a financially independent school board. Its report points out that the legislature apparently sought to give the New York city board of education control of its finances in 1917, when it enacted the present education law, with its provision for a minimum school appropriation of 4.9 mills of the city's assessed valuation. At that time a rate of 4.9 mills yielded sufficient to meet practically all the needs of the board of education. Since 1920, however, the 4.9 mills yield has furnished only about half the money required. The result has been that the board of estimate has been holding the purse strings of the school system.

The commission cites a number of investigations made to determine the relative efficiency of financially independent and dependent school boards. One conducted by Dr. C. W. Frasier of Denver, is referred to at length.

—Attorney General Oscar Carlstrom of Illinois has ruled that neither the governing board of a high school, nor the neighboring school district, are required to furnish free transportation for students attending a high school. It is also held that the high school district has no authority to pay the fares of such students nor to bill the high school district for them.

—Canton, O. The school board has asked the cooperation of the local police in keeping children and adults off the school grounds after school hours. Supt. Wilson Hawkins believes the time will come when it will be necessary to enclose the school grounds as a protection to the property and as a safeguard to the children.

—Columbus, O. The school board has been asked to approve a twenty per cent increase in janitor's wages. The granting of the increase would mean an expenditure of $61,362 by the board. There are 205 janitors in the employ of the board.

—Dayton, O. The school board has been sued by Carl Clem, who seeks reinstatement in his position as janitor and payment of $90 in wages alleged to be due him.

—Yakima, Wash. The school board members made their annual inspection of the school buildings in May in order to be in position to determine the improvements and repairs to be carried out during the summer. One side of the city was covered in the morning, and the remaining buildings were visited in the afternoon.

—At Bath, Me., the schools will remain on standard time. The decision was the result of a vote taken among the parents. The result was two to one in favor of standard time.

—The New York city board of education is planning to open next fall a school for janitors and custodians for school buildings. The recommendation was made by Robert W. Rodman, superintendent of plant operation.

—The New York city board of education adjourned one of its sessions out of sympathy for Mrs. Margaret McAleenan, a member, whose husband, Mr. Joseph A. McAleenan, was killed in an accident.

—The reelection of Col. Edward B. Ellicott to the presidency of the Chicago board of education is hailed by the Tribune of that city as a sign of progress. It says: "Col. Ellicott has carried forward and expanded the school building program begun under Mr. Moderwell. The seating shortage of 70,208 in 1923 has been cut to less than 30,000. A record number of 28 schools are scheduled for completion in 1926. In 1925, 19 new buildings were erected; 8 in 1924; and 4 in 1923. The shortage of seats has been reduced in the face of a school population increasing at the rate of some 20,000 a year. In brief, the Chicago public school system, a short time ago one of the worst metropolitan systems in the country, has improved so rapidly within the last three years that today it ranks among the best."

—The Terre Haute, Ind., school board has appointed Henry E. Cumming superintendent of buildings and grounds to succeed George E. Bungard. F. J. Piepenbrink was reelected business manager.

—The Providence, R. I., school committee was criticized before a local parent-teachers' association by Francis J. Brady for holding secret sessions. The members, he said, hesitate to express themselves before newspaper men and the general public.

—George J. Ryan, who is serving his fifth year as president of the New York City board of education, resides at Flushing, Long Island, and is in his private calling a real estate man and banker. He was appointed on the board in 1918. He is also a member of the advisory board of Brooklyn College.

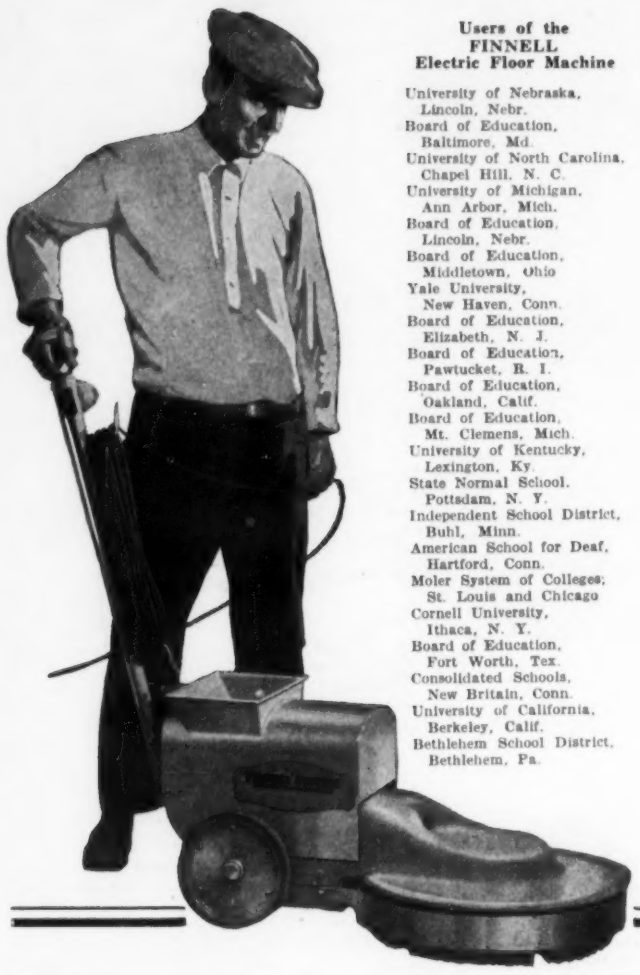
—The law applicable to the school board of Shelbyville, Ind., provides that the city council which choses the members, must name at least one member of the opposite party. Under that law the council, which is Democratic, must name a Republican to the school board.

—E. J. Williams, superintendent of the Owosso, Mich., schools, explained recently at a chamber of commerce meeting the new school election law. Candidates for the board of education are placed in nomination by petitions bearing 25 signatures. Voters must be registered ten days before election. Absent voters may send in their vote by mail. Those eligible to vote are the citizen parents or guardians of children of school age, which is from five to 20 years, and citizen owners of taxable property. The first named are not permitted to vote on questions of finance unless they are also owners of taxable property, but may vote on the election of school officers. The second group may vote on all matters. Joint owners of property may both vote, but in the case of a man and wife, with the property in the husband's name, the wife is not eligible to vote on money matters, and vice versa.

—Minneapolis, Minn. The school board has been asked to erect stop signs at five street intersections near school buildings.

—Portland, Me. The daylight saving time schedule under which the South Portland schools have operated will not be disturbed by the local district court. Under a recent decision the court ruled that if other than eastern standard time is in effect, it is not a matter for the issuance of an injunction, as asked for by a group of taxpayers arrayed against the mayor and the school board. It had been argued that the school board by its vote to open the schools an hour earlier than formerly had violated the laws of 1925.

Sanitation—



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—Jefferson City, Mo. The school board has elected M. M. Daugherty as chief engineer.

—Syracuse, N. Y. Under permission granted by the state industrial commission, the city engineer has proceeded to employ workmen for more than eight hours a day on two new schools. The longer working day was necessary to speed up the construction of the new schools.

—Attorney General Anderson of Washington has ruled that it is discretionary whether the district shall maintain a kindergarten.

—Russellville, Ark. The school board has assumed responsibility for the high school and will operate it as a free school next year. The school has been operated on a tuition basis, supplemented by public subscriptions, during the past three years.

—Bridgeport, Conn. By a vote of five to four, the school board failed to reconsider its action in refusing to reappoint William E. Stark as superintendent of schools. The board also took action, reducing the salary of the superintendent's office from $7,500 to $6,000. The board also approved plans for a new high school.

—Mrs. Anne C. E. Allinson, a member of the school committee of Providence, R. I., has been elected president of the Rhode Island Association of School Officials.

—Cleveland, O. Playgrounds will be opened in 47 districts for children this summer. The playgrounds are under the direction of the board of education and are open from June to August.

—Milford, N. H. A six-year high school has been organized for the year 1926-1927.

—Aberdeen, Wash. A gain of 315 pupils, or 6½ per cent is indicated in the returns of the school census. The total in all districts was 5,169, as against 4,854 a year ago. The census reveals a continued growth of the population.

—Boston, Mass. A survey of the age-grade situation has been completed by the department of educational investigation and measurement. The statistics show how many pupils there are of each age in each grade, the percentage of pupils under-age, normal age and over-age, in accordance with normal age-grade standards established for each grade.

The study reveals that late entrance accounts for 39.8 per cent of over-ageness in grade one and 29.5 per cent in grade two, but it accounts for 23.1 per cent city-wide. On the other hand, slow progress accounts for nearly three and one-half times as much of over-ageness, or 76.9 per cent.

—Lakewood, O. A summer school was opened beginning with June 14th. The school will be conducted for eight weeks and classes for all subjects will be organized.

—Bellingham, Wash. A six weeks' summer school for seventh and eighth grade students has been opened in the Washington school. The purpose of the school is to re-classify the pupils capable of doing advanced work and to relieve the teaching burden.

—A three weeks' summer school was held in the high school at Colorado Springs, Colo. All classes were taught from the kindergarten to the high school.

—Montesano, Wash. An increase of more than 23 per cent is indicated in the school census this year, as compared with that of last year. There were 1,046 pupils this year, as against 849 in 1925.

—Belleville, Ill. A six weeks' summer school has been opened for the benefit of pupils who desire to spend a part of their vacation in study. All students, both retarded and advanced in studies, are eligible to attend the sessions.

—The Research Division of the National Education Association recently made a study of the opening and closing time of primary, elementary, junior and senior high schools in 54 cities of more than 100,000 population.

A study of the morning programs of primary grades shows that one school had its time of opening from 8:20 to 8:29; thirteen opened from 8:30 to 8:39; eleven opened from 8:40 to 8:49; three opened from 8:50 to 8:59, and 25 opened at 9:00.

In the elementary grades, one school had its time of opening from 8:20 to 8:29; thirteen had opening hours from 8:30 to 8:39; ten had opening hours from 8:40 to 8:49; three had opening hours from 8:50 to 8:59, and 26 opened at 9:00.

In the junior high school, one had opening hours from 8:00 to 8:09, three opened from 8:20 to 8:29; fifteen opened from 8:30 to 8:39; five opened from 8:40 to 8:49; two opened from 8:50 to 8:59, and seven opened at 9:00.

In the senior high school, four schools had opening hours from 8:00 to 8:09; five opened from 8:10 to 8:19; three opened from 8:20 to 8:29; nineteen opened from 8:30 to 8:39; seven opened from 8:40 to 8:49; three opened from 8:50 to 8:59, and seven opened at 9:00.

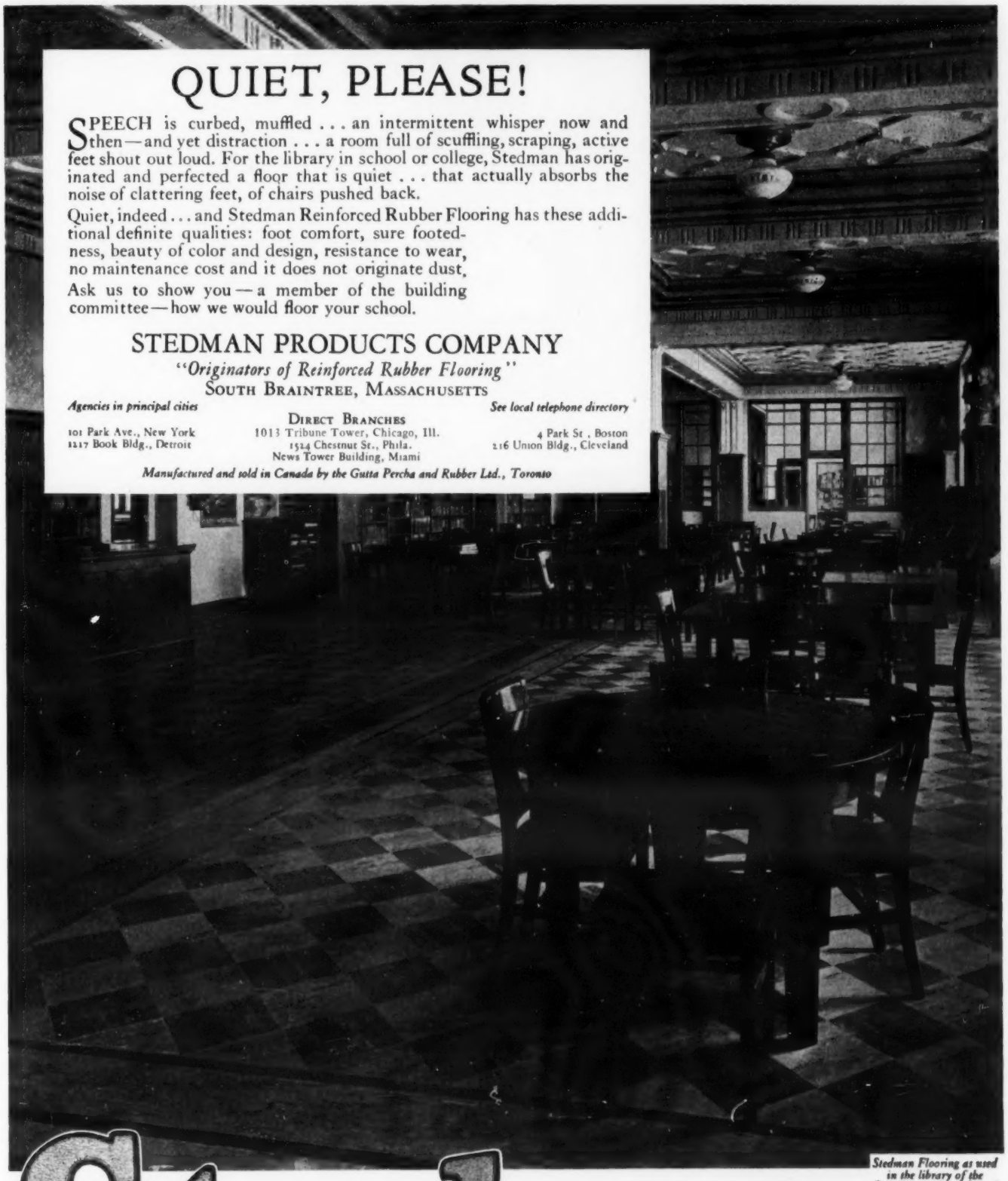
In a study of afternoon schedules, it is shown that in the primary grades, two schools opened before 2:00; one opened from 2:15 to 2:29; one opened from 2:45 to 2:59; ten opened from 3:00 to 3:14; eight from 3:15 to 3:29; sixteen from 3:30 to 3:44, and four from 3:45 to 4.

In a study of time spent in school excluding the lunch period, one city system reported that in its primary grades, the amount of time spent in school was under 4 hours, 15 minutes. In two schools, the amount of school time was 4 hours, 30 minutes; in four schools, it is 4 hours, 45 minutes; in twenty-one schools, the time amounts to 5 hours, 14 minutes; in seven schools, it is from 5 hours, 15 minutes to 5 hours, 44 minutes; in two schools, the time is from 6 hours to 6 hours, 14 minutes, and in nine schools the length of time varies.

In elementary grades, it was shown that two schools had school time of 4 hours, 30 minutes, to 4 hours, 44 minutes; in twenty-four schools the time was from 5 hours to 5 hours, 14 minutes; in ten schools, the time was from 5 hours, 15 minutes, to 5 hours, 29 minutes; in twelve schools the time was from 5 hours, 30 minutes to 5 hours, 44 minutes; in three schools, the time was from 6 hours to 6 hours, 14 minutes, and in one school the time varied.

In the junior high school, four schools reported the school time as 5 hours, 14 minutes; in six schools, the time was from 5 hours, 45 minutes, to 5 hours, 59 minutes; in fifteen schools, the time was from 6 hours to 6 hours, 14 minutes, and in two schools, the time was 6 hours, 30 minutes and over.

In the senior high school, two schools reported the school time was 4 hours, 30 minutes to 4 hours, 44 minutes; six schools reported the time as 5 hours to 5 hours, 14 minutes; eight schools had school time of 5 hours, 30 minutes, to 5 hours, 44 minutes; seven had time of 6 hours, to 6 hours, 14 minutes; two had school time of 6 hours, 30 minutes and over, and six had a varied length of time.



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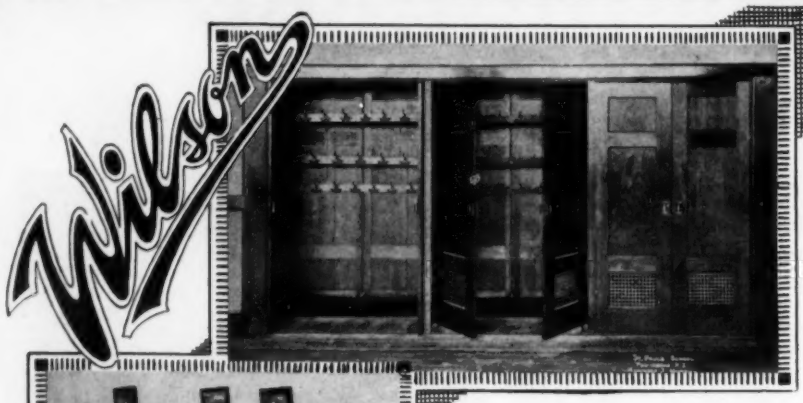

Wilson Hygienic Wardrobes with disappearing doors, in St. Paul's school, Providence, R. I. A. J. Murphy, Arch. Note ventilating grilles in doors.

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The same type wardrobes with rolling fronts. Note that they are always under the teacher's eye. These particular wardrobes are built in convenient recess in wall.

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MANY newly built schools have entirely omitted separate cloakrooms and depend solely on Wilson Hygienic Wardrobes.

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SCHOOL LAW

School District Government

A county board cannot discontinue all the schools in a district unless the children are furnished other available school facilities (Miss. constitution, 1890, § 205; laws of 1924, c. 283, § 91). State v. Morgan, 106 Southern Reporter, 820, Miss.

The law prescribes no educational requirements for a member of the board of education. Sharps v. Jones, 131 S. E. Rep., 463, W. Va.

School District Property

A statute authorizing a school board to change the location of a schoolhouse, and to sell and dispose of the "old site," is held to authorize the sale of any property acquired for school purposes, whether or not it had ever been so used (Act No. 100 of 1922, § 20). Henderson v. City of Shreveport, 107 So. Rep., 139, La.

A statute providing that a school board may change the location of a schoolhouse, sell and dispose of the old site, and use the proceeds thereof toward securing a new one, is held to vest a school board with absolute discretion in such matters (Act No. 100 of 1922, § 20). Henderson v. City of Shreveport, 107 So. Rep., 139, La.

When it is permitted that property dedicated to school purposes be sold, and required that proceeds thereof be used to purchase other property to be used for the same purposes, the fact that old property was not sold simultaneously with the purchase of the new, does not invalidate the sale of the old property or the purchase of new. Henderson v. City of Shreveport, 107 So. Rep. 139, La.

Under a statute providing that a school board may change the location of a schoolhouse and sell the old site, a board must sell all the property which is no longer used, necessary, or suitable for school purposes (Act No. 100 of 1922, § 20). Henderson v. City of Shreveport, 107 So. Rep., 139, La.

A complaint alleging that the trustees of a school district took possession of the plaintiff's house and established a school therein without the plaintiff's knowledge or consent, and that the house was through negligence of the janitor destroyed by fire, is held to show no liability in the school district. School Dist. No. 48 of Maricopa County v. Rivera, 243 Pac. Rep., 609, Ariz.

Teachers

A contract by the county superintendent of schools, employing his wife as a supervising teacher, is unenforceable (pol. code, § 920; pen. code, § 71; civil code, §§ 155-159, 171, 176, 1607, 1608, 1667). Nielsen v. Richards, 243 Pac. Rep., 697, Cal. App.

LAW AND LEGISLATION

—An amendment to the Colorado constitution is proposed whereby a bond issue of $750,000 is to be authorized for the purpose of creating a state printing plant, and a state commission is to be created to engage in the printing of textbooks. It will require 26,000 names to get the amendment on the ballot. The question was before the Colorado people several years ago and was defeated by a vote of 225,505 to 32,150. The Colorado Education Association is opposed to the measure.

—The taxpayers of East Providence, R. I., approved a $500,000 school building program. Then a disgruntled taxpayer obtained an injunction on the grounds that the town meeting had not specifically named a building committee. At a subsequent meeting the matter was corrected.

—Legislation to promote equality of educational opportunity in every part of the state has been enacted recently in Georgia and Tennessee. Georgia will provide a fund to supplement county school funds in counties not able to support adequate schools by a five-mill local, or county, tax. This is in addition to the regular state school appropriation.

Fifty-three counties in Tennessee levied as much as 50 cents on the hundred dollars for elementary schools in order to share in the state equalization fund, so that their school term may be eight months. Seventy-three counties out of the 95 will have the advantage of an eight-month school term.

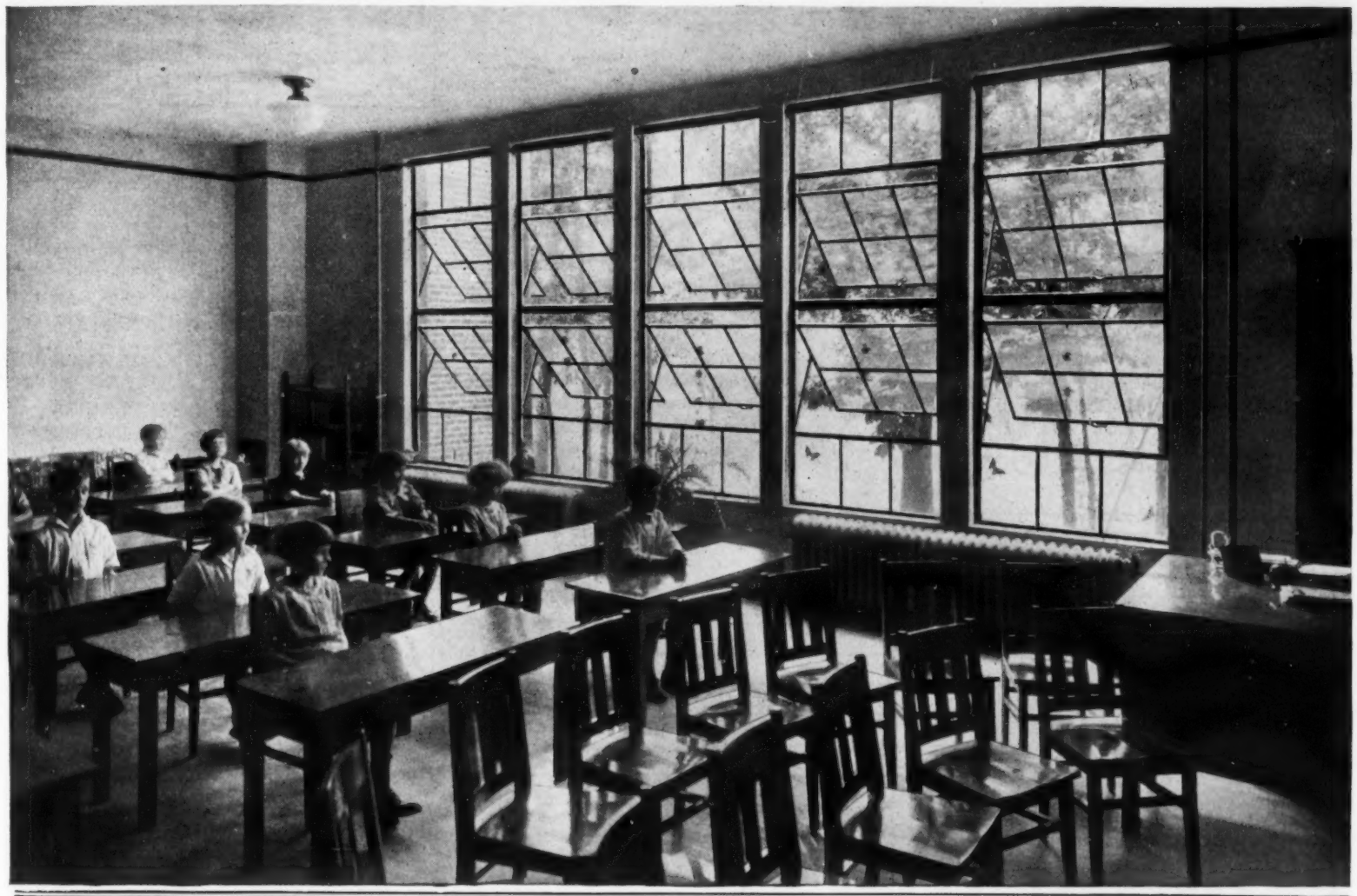
—An interesting suit has been filed in the court at Kelso, Washington, by citizens of Carrolls compelling Mrs. Mable A. Lanpher, secretary and member of the school board, to prepare her own recall as a board member. The question hinges on whether or not the recall law is broad enough to cover such a situation and whether the issue falls within the province of the present statute. There has been considerable dissatisfaction with school affairs in that district and the factions have been before the county school superintendent and prosecuting attorney with their troubles.

—The rules of the Terre Haute, Indiana, school board provide that the teachers shall be appointed only on nominations by the superintendent. The contention is made that nominations may be made from the floor and thus defeat the recommendations of the superintendent. A legal opinion on the subject says: "We are not called upon for an opinion as to whether the board may amend or repeal the rule, but only as to whether, permitting the rule to stand, it may be temporarily suspended or overridden. The courts have drawn a distinction between the right of a board to amend or repeal a rule by a majority vote of the board, and the right of a majority to temporarily suspend or override the rule over the protest of the minority. In our opinion a reasonable rule which has been adopted by a municipal body for the government of that body, which rule was adopted pursuant to lawful authority, can be temporarily suspended or overridden only by the unanimous consent of that body. One eminent writer states the law to be that rules when they are not prescribed by any authority superior to the body adopting them, may be suspended, but that such suspension may only be by unanimous consent. The resolution not having been adopted by the unanimous consent of the entire board is, in our opinion invalid."

—Miss Beatrice L. Dominis, a teacher who was not reappointed by the Worcester, Mass., school committee, has brought mandamus proceedings to compel Superintendent Walter S. Young to reinstate her. She attributes her discharge to race and color prejudice. The committee claims that she is incompetent.

—At Kansas City, Mo., two damage suits have been filed against Mrs. Mary Hickman a teacher in the Yeager School, who, it is claimed, punished a nine-year-old pupil with a broomstick. An actual damage of $7,500 and a punitive damage of $7,500 are demanded. The father of the child makes a separate claim for $7,500, making the total claim $22,500.

Give them NATURAL ventilation -through the windows!



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School authorities have decided in more than one of their general meetings that windows are the best means of ventilation as well as the most economical. The Congress of School Superintendents only last February went on record in favor of natural ventilation.

And this decision has been influenced by successful Fenestra installations in hundreds of schools and institutions throughout the country. Fenestra Reversible Windows, with their large, easily operated ventilators, are designed especially for school installation. They insure NATURAL ventilation.

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The School Building Situation

Have We Reached the Peak?

Schoolhouse construction has been on the upgrade since the close of the war. With but one slight recession in activity, we have been erecting new schoolhouses with a degree of regularity suggesting the ever growing increase in high school and college enrollments and the general interest in education. Our high school buildings have been designated by foreigners as "perfect palaces" of education. Our grade schools have not been neglected.

If bond sales figures may be used as our safest index for forecasting schoolhouse construction, then the bond sales for the first five months of 1926 would indicate that the peak year was 1925.

Of course, this may be merely temporary, a catching up process of some of our large metropolitan centers. New York City is not quite as active as last year. California and Florida are still booming along. Other states are marking time, completing the cycle of construction. Our average American school building takes from eighteen months to four years to complete. The average small city will build a new high school only once in the life time of the average taxpayer.

The graph illustrating the sale of school bonds for 1925 and 1926 emphasizes the basic strength of the school bond market at this time. The sales of school bonds for the first five months of 1925 reached a total of $215,842,328. To May, 1926, the total bond sales reached $179,716,702. With the exceptions of March and May, all months show substantial increases over 1925.

The totals for the spring of 1925 were materially affected by the sale of $87,986,380 in the state of New York. The city of New York reduced its program of construction for 1926, but it has millions of dollars of schoolhouses still under construction. For the first five months of 1925 advertised school bonds in New York state can be estimated at $101,168,630. For the same period of 1926 the volume reaches $69,710,500. When a city like New York shifts its interests temporarily from schools to bridges or subways, school bond totals will be affected. While the peak of sales is thereby affected, the balance of the country goes forward with a program quite consistant in its regularity.

The Dodge Reports on building construction for the first quarter of 1926, as against the same three months of 1925, indicate a shrinkage of about 20 per cent in the square footage of contracts let. The reduction in the values of contracts let is about 18 per cent. In the number of school building projects, the figures show an increase from 582 in 1925 to 598 in 1926—a gain of about 3 per cent. This suggests a continued interest for twelve months past in small schoolhouses. The following figures for schoolhouse construction for the first quarter tell the story:

Contracts Let—Square Feet

1924	14,700,000
1925	11,736,700
1926	9,359,900

Contracts Let—Value

1924	$83,736,000
1925	77,709,900
1926	63,147,400

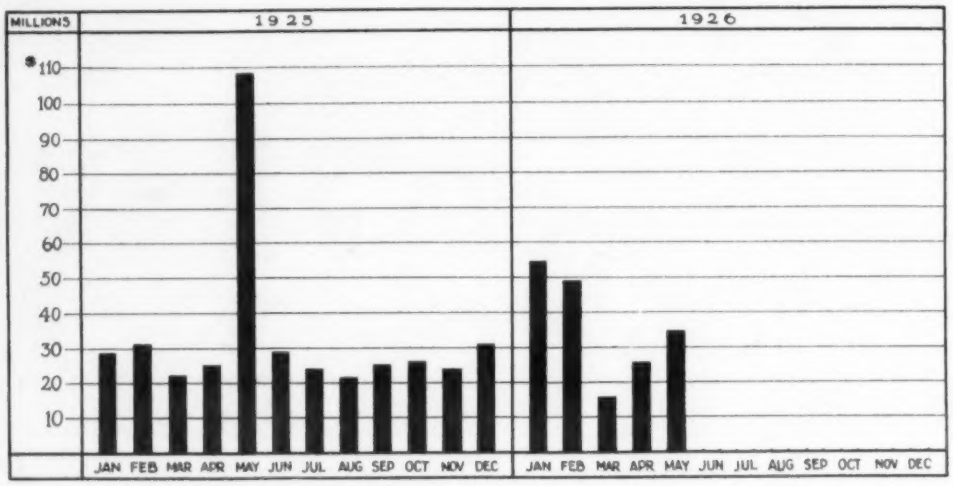


CHART I. ADVERTISED SCHOOL BOND SALES.

In the eight years since the war, our school bond sales have shown a steady increase. The market for tax exempt bonds has been very strong. We have become a nation of bond buyers. School bonds are attractive because they suggest our confidence in education. The following advertised school bond sales indicate the growth of the past eight years:

1918	$ 49,568,974
1919	114,143,565
1920	146,487,129
1921	243,639,448
1922	278,568,362
1923	289,890,510
1924	308,676,589
1925	397,270,256

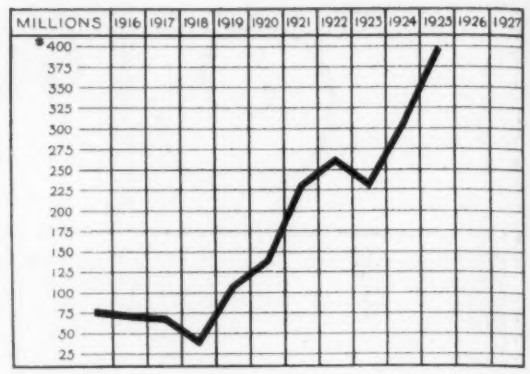


CHART II. GROWTH OF SCHOOL BONDS SALES.

Contracts Let—Projects

1924	658
1925	582
1926	598

The outstanding bond sales by states indicate important progress in schoolhouse construction for 1926, taken from bond sales totals for January, February, March, April, and May, 1926:

California	$22,554,400
Florida	8,645,500
Illinois	1,341,000
Indiana	1,714,000
Iowa	3,335,400
Kentucky	3,909,000
Maryland	5,725,000
Michigan	2,581,250
Minnesota	2,387,500
Mississippi	485,000
Missouri	3,851,000
Montana	958,540
New York	59,710,500
Oregon	1,870,500
Virginia	1,658,476

Advance school enrollment for the fall of 1926 seems to indicate the usual increase in the high schools. Present reports of first grade enrollments in September, 1925, suggests a similar shrinkage for 1926. Second grade enrollment has without question maintained its relative proportion. The falling off in the birth rate during the war has now reached the point when school enrollment must be affected. When the figures are finally compiled, it will undoubtedly be shown that reductions in school population have been recorded for the school year 1925-1926.

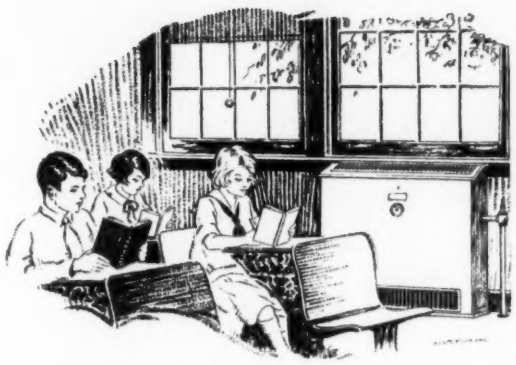
The reduction of immigration will also affect our increase in school enrollment. For years and years we have been accustomed to great increases in school enrollment due to the entrance of the foreign born children. With a natural population increase rate of $2\frac{1}{2}$ per cent, and increases in population by immigration reduced to nil, we shall find that schoolhouse construction is more affected by shifts in population than by unusual increases in population. The shift from the farm to the city is going on, the drift to Florida and California continues. In the long swing cycle of business prosperity in which we are, no immediate changes in the schoolhouse construction boom is in sight.

TABLE I. SCHOOL BOND SALES AND SCHOOLH OUSE CONSTRUCTION CONTRACTS FOR 1923-1926

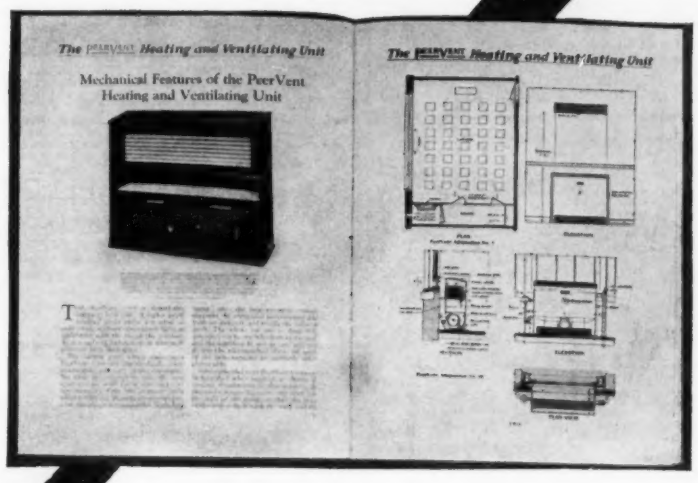
Month	1923			1924			1925			1926		
	School Bond Sales[1]	CONTRACTS LET[2]		School Bond Sales[1]	CONTRACTS LET[2]		School Bond Sales[1]	CONTRACTS LET[2]		School Bond Sales[1]	CONTRACTS LET[2]	
		Sq. Feet	Value		Sq. Feet	Value		Sq. Feet	Value		Sq. Feet	Value
Jan.	$ 36,673,115	2,153,000	$ 13,906,000	$ 20,008,462	3,114,000	$ 31,155,000	$ 28,931,323	2,034,000	$ 13,595,000	$54,022,531	2,245,200	$13,346,200
Feb.	17,152,130	3,992,000	22,108,000	40,828,295	5,839,000	34,062,000	30,761,773	3,322,000	17,772,000	49,014,450	3,114,200	29,721,500
March	19,496,025	4,092,000	22,550,000	37,021,484	5,748,000	18,519,000	22,468,500	5,209,000	40,541,000	16,265,292	4,000,100	29,079,700
April	22,141,375	5,849,000	35,822,000	27,705,696	5,757,000	33,522,000	25,305,540	4,762,000	30,972,000	25,982,876	5,094,500	38,480,200
May	39,580,999	3,949,000	24,346,000	17,809,213	6,908,000	40,582,000	108,375,192	4,079,000	25,775,000	34,431,553	6,610,500	39,709,700
June	28,896,163	3,717,000	22,676,000	36,325,100	5,262,000	34,807,000	28,901,150	9,001,800	64,584,800	.....	.....	.....
July	32,497,952	4,131,000	27,512,000	18,645,980	6,150,000	39,511,000	24,196,675	7,644,500	57,672,000	.....	.....	.....
Aug.	9,691,000	3,285,000	21,036,000	26,129,566	4,401,000	31,771,000	21,588,754	5,246,200	33,667,200	.....	.....	.....
Sept.	10,661,101	2,364,000	13,461,000	17,193,872	4,857,000	31,728,000	25,655,944	4,744,100	35,217,300	.....	.....	.....
Oct.	21,571,341	3,907,000	21,923,000	12,475,106	4,127,000	27,675,000	26,313,830	3,936,800	28,192,000	.....	.....	.....
Nov.	30,054,948	3,529,000	21,722,000	15,820,570	2,825,000	18,311,000	24,673,250	3,156,700	22,048,100	.....	.....	.....
Dec.	21,474,361	3,464,000	25,468,000	38,718,245	2,485,000	21,695,000	30,098,325	3,407,400	31,645,500	.....	.....	.....
Totals	$289,890,510	44,432,000	$272,530,000	$308,676,589	57,473,000	$363,338,000	$397,270,256	58,799,900	$423,203,700	.....	.....	.....

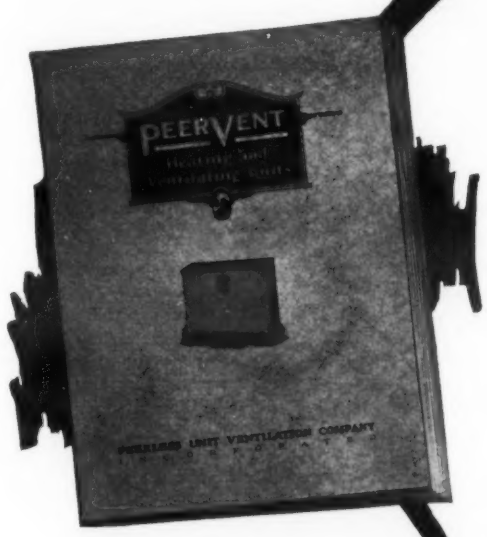
[1]Advertised School Bond Sales.
[2]Dodge Figures.

PEERVENT Heating and Ventilating Units



The PeerVent Unit System gives each room exactly the required cubic feet of air per minute, at any desired temperature, without waste of fuel. Costs less to install, saves space, and is easy to operate.


The PEERVENT Heating and Ventilating Unit
Mechanical Features of the PeerVent Heating and Ventilating Unit
The PEERVENT Heating and Vent'lating Unit



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BUILDING NEWS OF THE SCHOOLS

Summer Course for Junior-Engineers

A one week's course for school janitors and engineers was held during the week of June 7th to 12th, at the Colorado State Teachers' College, Greeley, Colo.

Sessions were held daily from 8:00 to 5:00. There were demonstrations of firing, tempering air, scrubbing, mopping, oiling floors, building and banking fires, gauge reading, the making of records and reports and the making of repairs. There were also lectures giving standards and methods for each procedure and in addition, talks on responsibilities of the janitor, lines of authority and duties, and relationships with school board, teaching personnel, and pupils.

In connection with the course, there were exhibits of the leading commercial houses carrying full lines of janitorial materials and supplies. Motion pictures were freely used to illustrate methods of fire prevention, handling of furniture, temperature control, and cleaning methods. Visits were made to different types of schools to observe how the janitors' duties should be performed under different conditions.

The school was open to school janitors and engineers of Colorado and nearby states, and was in charge of Mr. Harry S. Ganders, of the school administration department of the Colorado State Teachers' College. Among the well-known experts on its teaching staff were J. Fleikeid, instructor of school janitors. Minneapolis, Minn.; Mr. G. C. Gamble, school building expert, Colorado Teachers' College; C. E. Reeves, Elmira, N. Y., and W. S. Rathbun, fire prevention engineer of the Mountain States Bureau, Denver, Colo.

—The school board at Wenona, Illinois, has voted a $100,000 bond issue for a new school building. Mr. John Hamilfen of Ottawa, Illinois, has been selected as the architect.

—The site for the new Theodore Roosevelt high school to be built in the Bronx section of New York City, cost $426,771.28. The total cost of grounds and building is estimated at $4,000,000. It will accommodate 4,500 pupils and is expected to be completed by September 1, 1927.

—A tablet commemorating the name of David Longmire, a pioneer, was placed in the school at Wenas, Washington.

—Raleigh, N. C. The sum of $1,300,000 has been voted for the purchase of sites, the erection and equipping of school buildings.

—Iron River, Mich. After three unsuccessful attempts, the school district has approved a bond issue of $300,000 for the erection of a junior-senior high school.

—When the Bridgeport, Conn., school board opened the bids for a new schoolhouse it was found that William Martin & Sons were the lowest responsible bidders. William Martin, Sr., head of the firm is also a member of the school board. When the local builders protested, the board replied that the firm was incorporated and that there were no ethical grounds why the contract should not be awarded.

—Pittsburgh, Pa. The school board has employed a firm of public accountants to undertake a study of the cost of cleaning schools in Pittsburgh and in three other cities of the same class.

—Detroit, Mich. The new school program contemplates an expenditure of $73,000,000 for the next ten years for the purchase of sites and the construction of new buildings.

—Ballinger, Tex. The school board has fixed a rate of $25 per night for the use of the high school auditorium for all purposes exclusive of school activities. A flat rate of $10 was previously charged but it was found that this did not cover the expense of light, fuel and janitor service.

—The old Central high school, Buffalo, N. Y., the original secondary school of the city, has been abandoned as a school site by the school board. It had recently been used by the opportunity school.

—The General Education Board during the past year made an appropriation aggregating $24,534 to the state education departments of two states. The payments were made in annual installments, covering a period of two or three years, and were made to assist in maintaining divisions of schoolhouse planning in those states.

—Special dedication exercises marked the completion recently at Riverside, Walker County, Tex., of the three thousandth Rosenwald building. The Rosenwald fund, established in 1917 to promote negro education by the erection of school buildings and teachers' homes, is in operation in fourteen southern states. During this time, 2,889 school buildings and 111 teachers' homes have been built.

—St. Joseph, Mo. Steps have been taken to provide a building program in the shape of a bond issue.

—Russell, O. The school authorities held a suceessful school bond election in May to vote $28,000 in bonds for a new school.

—At Carrollton, Mo., an election was held to vote bonds for new grade buildings and an addition to the high school.

—New Castle, Pa. Citizens of the city by a decided majority, voted for a bond issue of $750,000 for the erection of needed schools.

—Longview, Wash. Bonds in the amount of $74,000 have been sold for two new schools. The bonds were sold above par, bringing a price of 101.15, amounting to a premium of more than $800.

—Ft. Worth, Tex. A new Dillow school will be erected in connection with the school board's $2,000,000 building program.

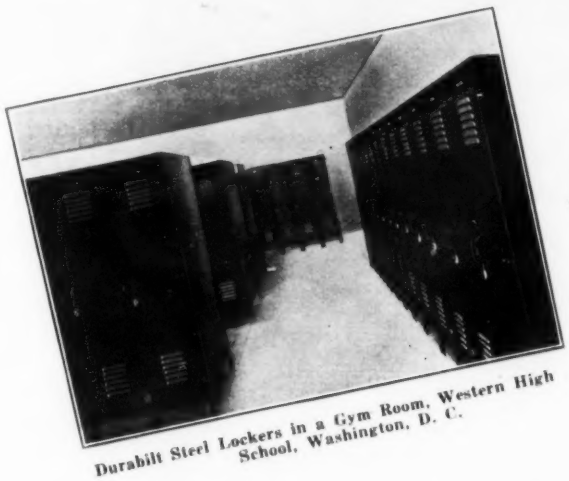
—Las Cruces, N. Mex. Dona Ana County will have two new union high schools, one in the northern and one in the southern part of the county. Bonds will be voted for the erection of new buildings.

—The Lawrence high school at Lawrence, Mass., has been erected adjacent to and in connection with the present high school building, and has been named the James D. Horne Annex. The building has a frontage of 258 feet on one street and varying depths of from 38 feet to 200 feet. The main front is four stories in height, and the rear portion containing the lunchroom and the gymnasium, is three stories in height, while the shops are on either side of the central entrance corridor. The building contains 2,000,000 cubic feet and will accommodate 2,000 pupils.

(Continued on Page 101)

DURABILT STEEL LOCKERS

Built by Locker Specialists



Durabilt Steel Lockers in a Gym Room, Western High School, Washington, D. C.

Durabilt Steel Lockers in a Corridor at Eastern High School, Washington, D. C.

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The mammoth school building programs of today demand the combined efforts of Professional School Men, Architects, Builders and Manufacturers, in providing equipment that will assist our Country in maintaining world supremacy in the school field.

The growing tendency to complete the High School course has necessitated providing additional large school plants to accommodate the greatly increased attendance.

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Some prefer lockers of the free standing type as shown in the above illustrations of Washington, D. C., schools, while others favor the recessed type of locker.

Should you at any time anticipate the purchase of locker equipment, it would be a pleasure for a Durabilt Sales Engineer to assist in the preparation of plans and specifications that will assure you of an installation possessing beauty, distinctiveness and quality.

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Western High School

Armstrong High School

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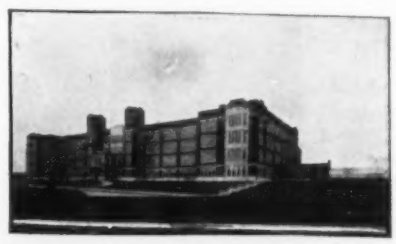

Eastern High School

Powell Junior High School

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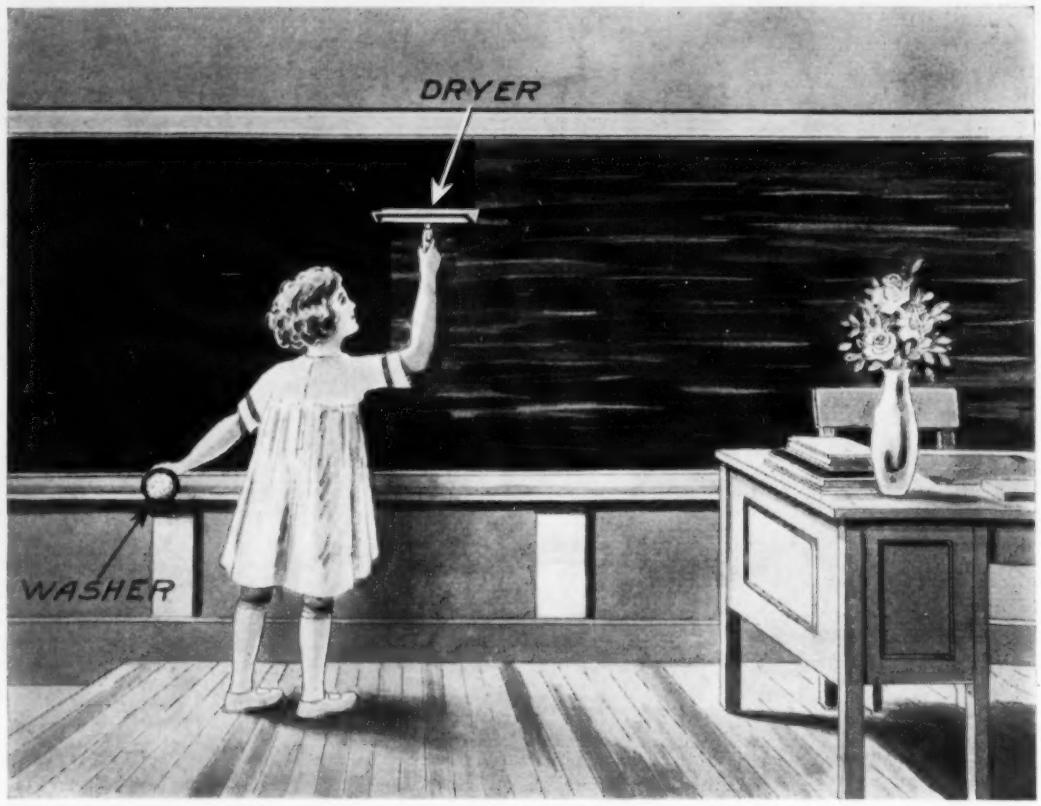

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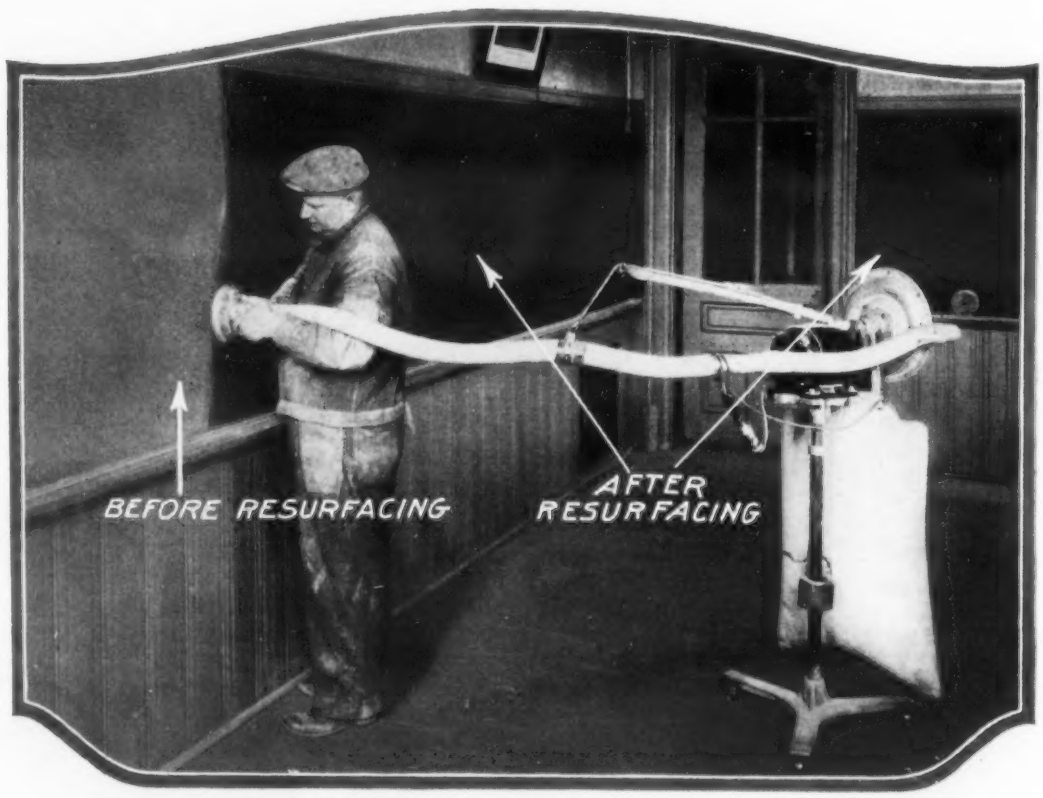

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METAL LATH and METAL ROOFING *for* SAFETY

(Continued from Page 98)

—Boston, Mass. An appropriation of $3,038,-162 for additional accommodations in school buildings and grounds has been approved by the school committee. The largest item in the list is $1,469,810 for construction and equipment of two 36-room high schools. The second was $600,000 for land and construction of the Abraham Lincoln School.

—Milford, N. H. A twelve-room school was occupied in January, 1926. The school replaces two old buildings now abandoned.

—Nutley, N. J. The first unit of the new high school is under construction, ground having been broken on May 10th. The cost of the unit is $650,000, exclusive of the ground. Additions will be built for the Washington and Spring Garden buildings.

—The school board of Lafayette, La., recently completed its annual inspection of the school buildings, which were found to be in excellent condition. The board has named a new school the N. P. Moss school, in honor of one of the early pioneers of the city. An annex will be built to one of the colored schools at a cost of $13,983.

—Alma, Mich. The school board has sold $225,000 in bonds at a premium of $3,500 and interest. The money will be used in providing equipment for new schools.

—Cadillac, Mich. The appraised valuation of the school properties is estimated at more than a million dollars, according to a report made to the board of education.

—Topeka, Kans. Bonds aggregating $250,000 have been sold by the board of education. The bonds were part of the $970,000 issue approved by the voters last year.

—Cleveland, O. The board of education has avoided higher labor and building costs by the elimination of fancy trimmings on new elementary schools. Bids recently received for three new buildings, revealed that the schools will cost approximately $150,000 less than the schools constructed three years ago, despite the rise in building costs. Bids for the schools ranged between $440,000 and $450,000. Other factors entering into lower costs are buildings of three stories in place of two stories, and changes in the ventilating systems.

—Supt. W. A. Sutton of Atlanta, Ga., has presented to the board of education, recommendations for the expenditure of $2,932,624 of the $3,500,000 in school bonds recently voted. The recommendations provide for the expenditure of $2,982,624 within the next three years, to be divided as follows: $1,481,000 for elementary schools; $1,090,624 for high and special schools, and $411,000 for elementary schools for colored children. The establishment of two junior high schools was also recommended.

—Bremerton, Wash. The school board recently disposed of $20,000 in bonds. The proceeds of the issue will be used in the erection of another unit to the school building.

—Elma, Wash. A school bond election was held on May 15th to vote bonds for new buildings.

—Denver, Colo. A new school building program requiring an expenditure of approximately $6,500,000 in the next five years has been outlined by President L. F. Hallett of the school board. The program involves the raising of funds both through direct taxation and bond issues.

In order to raise the money necessary and to start the program, Mr. Hallett predicts an increase of the mill levy for school purposes amounting to five per cent for the current year. This will raise from $225,000 to $230,000 a year. The remainder of the required amount will be raised by bond issue. It is planned to call a bond election in the fall at which time the citizens will be asked to approve an issue of $3,000,000 to $5,000,000 in bonds.

The program has been formulated with a view to the needs of the city for the next five years, as well as caring for present urgent necessities. It contemplates the erection of two elementary schools, two junior high schools, and additions to other buildings.

—Dallas, Tex. Construction work was begun in May on the Woodrow Wilson High School, which is to be ready for use in eighteen months. The building will accommodate 2,000 students, will have three stories, and will cost $550,000.

—Boston, Mass. An appropriation of $3,038,162 has been made for additional accommodations in school buildings and grounds. The largest item in the list was $1,469,810 for the construction and equipment of two 36-room high schools, one for girls and one for boys, in the Roxbury district. The second was $600,000 for the site and construction of the Abraham Lincoln school.

—Knoxville, Tenn. The school board has asked the city council to proceed with the sale of $1,000,000 to $1,250,000 in bonds to carry out a new school building program. The sale of these bonds represents more than half of the construction program under the $2,250,000 bond issue.

—Portland, Ore. The school board has asked for additional funds for the operating expenses of the schools. It is estimated a tax yielding about $1,250,000 will be needed for operating expenses, while a bond issue of $5,000,000 will be needed to take care of necessary buildings.

—Dallas, Tex. The school board is in need of $15,000 with which to pay the cost of repairing damages by hail and rainstorm to ten or twelve schools. Every school is protected with fire insurance, but not one has hail insurance, therefore no money may be obtained from an insurance source.

—Mrs. Jennie L. Barron, only woman member of the Boston school board, in a recent address, deplored the fact that Boston lacks proper schoolhouse facilities. She pointed out that many children are receiving their education in basements, portable buildings and halls.

—The Superior Court at Providence, R. I., has granted a request of Alfred J. Kent of East Providence, for an injunction to restrain the school board from proceeding with the expenditure of $500,000 for a new school. It was held that the school board had acted beyond its power in going ahead with contracts for the expenditure of the money.

—Under an opinion of the deputy attorney general of Pennsylvania, the school district of Gilbertson is permitted to obtain a loan of $13,000 for the completion of its school building. The money must be repaid from the semi-annual state school payments.

—Mr. George J. Ryan, president of the board of education of New York City, has called attention to the fact that more children are housed in the public schools of New York than the combined total population of Albany, Buffalo, Newburgh, and Rochester.

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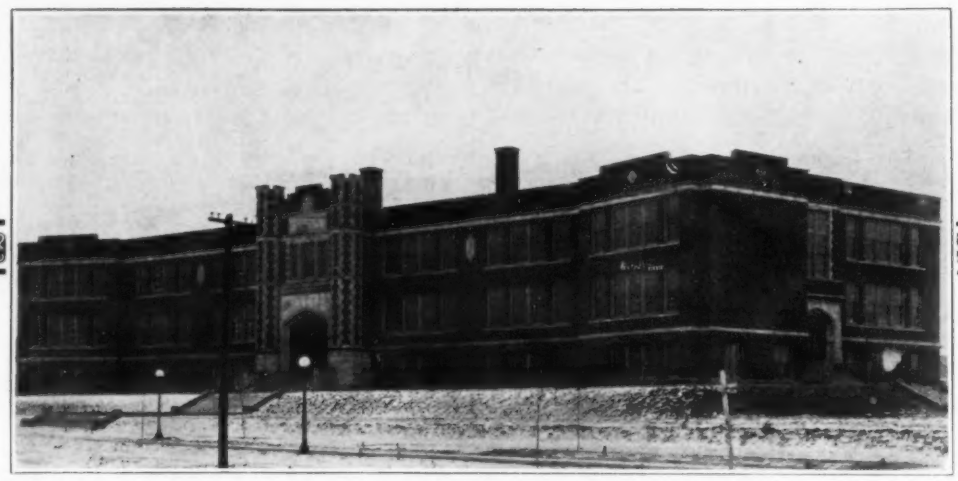


FIRESTONE SCHOOL, AKRON, OHIO

T. Ralph Ridley, Archt. Akron, O.

With "Williams" Reversible Window Fixtures cleaning is done entirely from the inside.

Mr. Ryan explained that New York City is faced with the problem of providing accommodations for 1,011,320 day school pupils.

For the last eighty years, he says, the school authorities have lived so close to the great building program which we have carried out that perhaps we have failed to see the forest because of the trees. From January, 1918, to the present time, there were opened and occupied 185 new elementary school buildings, fourteen high school buildings, and one training school for teachers, giving a total of 250,918 new sittings.

There are under construction sixteen elementary school buildings and five high school buildings, which will be opened during 1926, with a total seating capacity of 25,489. In other words, since January, 1918, 222 school buildings have been opened or are under construction with a total sitting capacity of 279,466.

—Mayor James J. Walker turned the first shovelful of earth for the new three-and-one-half-million-dollar Roosevelt high school to be erected in New York City. The ceremonies took place on May 18th and were opened by William J. Weber, a member of the board from the Bronx. Among the officials who participated were Dr. William J. O'Shea, superintendent of schools; George J. Ryan, president of the board of education; Henry Bruckner, president of the Borough of the Bronx, and Judge J. V. McKee, president of the board of aldermen.

—Lenoir, N. C. At an election held on May 11th, a bond issue of $100,000 was carried with an overwhelming majority. The proceeds of the issue will be used in the erection of a grammar school for white children and a school for colored children.

SCHOOLHOUSE DEDICATIONS

—The dedication of the new $100,000 schoolhouse at Eatonville, Wash., was attended with a community holiday. A picnic dinner was served on the school grounds. The program consisted of singing, reading and folk dances.

—The new school at Wilson Mills, N. Car., was opened with addresses by Col. Fred A. Olds of Raleigh; Prof. J. A. Grimes of A. and T. College, Greensboro; County Superintendent H. B. Marrow; W. G. Wilson, chairman county board of education; J. A. King, county supervisor; W. F. Credle and J. J. Blair, state educational department.

—President David A. Miller of the Allentown, Pa., school board was the speaker at the dedication of the new Ritter school. The balance of the program was largely made up of pupil exercises.

—The new $125,000 Colfax school at Springdale, Pa., was opened with an address by J. L. Wherry, assistant superintendent of schools of Allegheny county. The program was arranged by Supt. Loyal S. Marshall. Members of the Springdale board of education in charge of the ceremony were: W. A. Haas, president; W. A. Clowes, R. L. Harbison, Mrs. Cora B. Hickey, Ben D. Remaley and John A. Hendrickson, secretary.

—The dedicatory program for the new school at Midland, Texas, was arranged by Principal W. W. Lackey. Great credit for bringing the project to a successful completion is given to chairman J. E. Hill of the school board and to John Howe, B. Frank Haag, R. V. Lawrence, Dr. J. B. Thomas, George Ratliff and Millard Eidson, members.

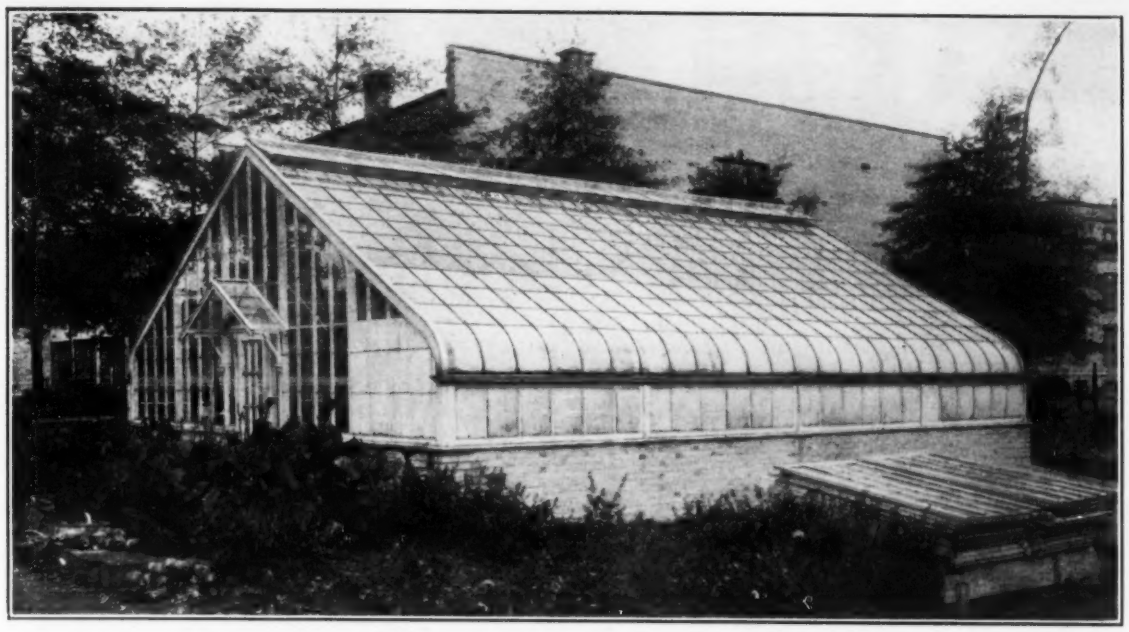
—The new school at Aberdeen, Washington, has been named after Captain Robert Gray, a pioneer.

(Concluded on Page 104)

BREAKING GROUND FOR A MONSTER HIGH SCHOOL.

The start for the new $4,000,000 Theodore Roosevelt high school to be erected in the Bronx borough of New York City is made by President George J. Ryan breaking ground. The two men seen on the left are board officers John A. Ferguson and Ralph McKee. Those seen on the right are William Hayward, William J. Weber, and Superintendent William J. O'Shea.

GLASS ENCLOSURES



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(Concluded from Page 102)

—Principal B. W. Lyon arranged the dedicatory ceremonies of the new Franklin B. Gault school at Tacoma, Washington. R. B. Thompson, a member of the school board, presided.

—Dr. A. E. Coughan, president of the board of education, opened the new Point Marion Community school at Brownsville, Pa., with an address of welcome. Addresses were made by Dr. Hubert Eicher, director of buildings of the state department, and J. Earle Roberts, principal of the new school.

PERSONAL NEWS OF SUPERINTENDENTS

—Supt. D. O. Groce of Festus, Mo., has been reelected for a fifth term.

—Few men in the United States have rendered a more continuous and a more effective service as a superintendent of schools than Taylor C. Clendenen, of Cairo, Ill. The city board of education has shown its continued appreciation of these services by continuing Mr. Clendenen for forty years in his work. Some of the children who attended school during the first years of his superintendency are now sending their grandchildren to school.

The board of education has added to Mr. Clendenen's honors by naming the new high school after him and making him superintendent emeritus.

—Mr. G. G. Lafferty, superintendent of schools at Litchfield, Ill., died on April 27th, while attending a high school meet at Hillsboro.

—Mr. T. W. Smith, formerly superintendent of schools in Tuscaloosa County, Ala., has become associated with the Educational Exchange Company at Birmingham. Mr. Smith has filled the positions of principal, superintendent, and member of the state textbook committee, as well as performing some service in connection with the office of the state education department. Mr. Smith's excellent equipment gained in the teaching profession will enable him to make a distinct contribution in this new field of service.

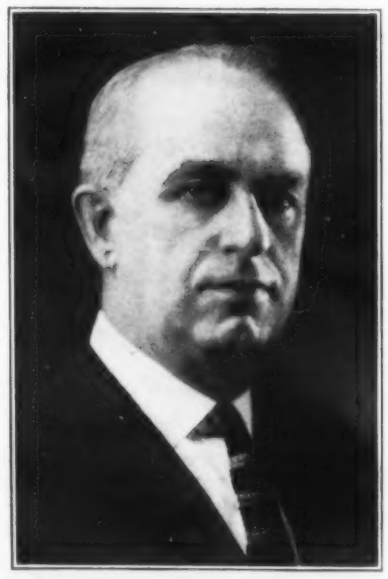
—Mr. Edwin O. Grover, formerly connected with the Prang Company, has been made professor of books at Rollins College, Winter Park, Fla. The professorship is a new one created at the suggestion of Dr. Hamilton Holt of the College.

—Prospect, Va. Principal R. W. House, of the Consolidated High School here has visited every home represented in his school this year. He has an enrollment of 228 pupils, with thirteen teachers.

—Lauray, Va. Supt. Harry B. Hanger, of Page County, has secured an additional increase in the tax levy for schools by the board of supervisors. The increase is from ninety cents to one dollar. This will augment the school funds about six thousand dollars for next year.

—Warrenton, Va. Supt. James C. Ambler, of Fauquier County, has been using a system of supervising principals in the administration of the public schools for the past three years. He states that for equalization of standards it is a highly efficient system.

—East Stone Gap, Va. Supt. J. J. Kelley, of Wise County, delivered one hundred and thirteen diplomas to high school graduates here on June 2. These graduates were from the six accredited schools located at Big Stone Gap: Coeburn,



JOHN J. RICHESON,
Superintendent-Elect, Youngstown, Ohio.
(Formerly at Decatur, Ill.)

Norton, Appalachia, Wise, and East Stone Gap.

—Mr. O. B. Strong has been elected superintendent of the Savannah and Chatham County, Georgia, schools to succeed Mr. C. B. Gibson, resigned.

—Mr. A. J. Stoddard of Bronxville, N. Y., has been elected superintendent of schools at Schenectady, succeeding E. R. Whitney, who resigned because of failing health.

—Mr. Harlan D. Crowell has resigned as assistant superintendent of schools at Providence, R. I.

—Mr. Omer Carmichael, of Selma, Ala., has resigned as president of the Alabama Education Association, to accept an appointment as superintendent of schools at Tampa, Fla. Mr. E. P. Murphy, of Gadsden, succeeds Mr. Carmichael.

—Supt. W. J. O'Shea of New York City has asked the board of education to appoint five additional district superintendents to relieve the associate and district superintendents of their burden of work. Supt. O'Shea points out that the position of district superintendent was created with the idea that each superintendent should supervise not more than 500 teachers and 20,000 pupils. At the present time these superintendents are directing from 1,000 to 1,600 teachers and are in charge of from 20,000 to 55,000 pupils. Their complex duties now require them to supervise a variety of schools and they inspect and report upon community centers, lectures, and other activities. They are required to serve on committees dealing with important questions of school management and organization, such as committees on the revision of the course of study, on rules and regulations for the promotion of pupils, and on grading and classification of pupils.

—Asst. Supt. Edward D. Roberts of Cincinnati has declined the appointment of superintendent, tendered him by the board of education of San Diego, Calif.

—Mr. A. C. Strange, state director of Americanization in Oregon, and formerly a city superintendent, has resigned to accept an appointment on the faculty of the new state normal school to be opened at Ashland.

—Mr. L. W. Turnbull of Tillamook, Ore., has been elected superintendent of schools at North

(Continued on Page 106)

Pity the poor floor—
give it a Valspar finish!

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Running feet! Scuffling, pounding feet! Big feet and little feet!

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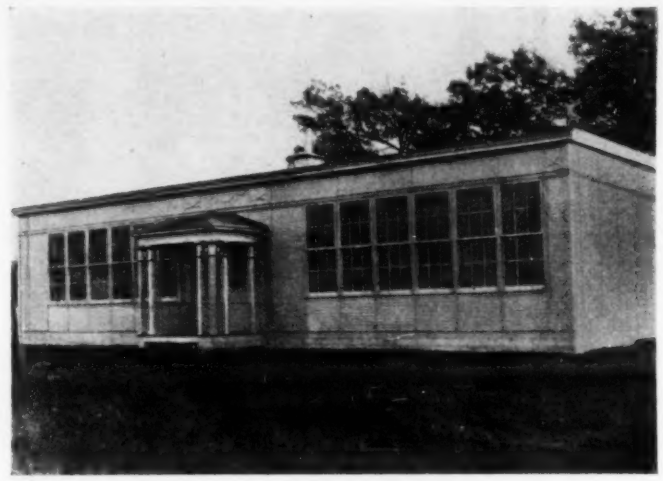

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(Continued from Page 104)

Bend for the next year. Mr. Frank Bennett of Enterprise, Ore., succeeds Mr. Turnbull at Tillamook.

—Mr. E. F. Carleton, a well-known Oregon educator, has been appointed as secretary of the State Teachers' Association. Mr. Carleton has withdrawn his name as a candidate for the state superintendency.

—Mr. Charles H. Keyes of Barrington, R. I., has been reelected for his eighth term, with an increase in salary.

—Mr. Horace Lanchester, of the Apple Valley School, near Parma, Ida., has been elected principal of the Parma high school at Parma. Mr. Elmo Peterson succeeds Mr. Lanchester at the Apple Valley School.

—D. E. Zook has been elected principal of the Nokomis, Ill., township high school at a salary of $3,300.

—Mr. J. C. Smith has been re-elected principal of the Community High School at Wenona, Illinois, for the sixth year.

—John W. Scott has been dropped as head of the commercial department of the high school by the Beaumont, Texas, board of education. Formal charges of negligence have been filed against him. He has demanded a hearing.

—Supt. I. T. Simley of Thief River Falls, Minn., has been elected to the superintendency of South St. Paul, Minn.

—Wisconsin. L. P. Goodrich, who served for the past three years as superintendent of the Fond du Lac schools, has been reelected. F. F. Schlosser, principal of the Casco high school, goes to Algoma as principal to succeed Principal Spear, resigned. George S. Ray, formerly of Beaver Dam, succeeds E. A. Cross as superintendent at Darlington. Mr. Cross goes to White Pigeon, Michigan.

—The measure before the New York legislature to make Dr. William L. Ettinger, superintendent-emeritus of the New York City schools, has been made a law. He will receive a salary of $12,000.

—Mr. J. M. Martin, superintendent of schools at Nebraska City, Nebr., for the past four years, has retired permanently from educational work. Mr. Gordon G. Warren succeeds Mr. Martin as city superintendent.

—Mr. R. E. Ireland has been elected superintendent of schools at Stratford, Conn.

—Mr. H. E. Smith of Oconto, Wis., has been elected superintendent of schools at Antigo.

—Mr. Omer Carmichael of Selma, Ala., has been elected supervising principal of schools at Tampa, Fla., to succeed Sexton Johnson. Mr. Carmichael is a graduate of the University of Alabama and holds a degree from Columbia University. In 1916 he was elected principal of the Selma, Ala., high school, where he served for three years. In 1919 he was called to Talladega, but after one year was called back to Selma, where he served until elected to his present position.

—Mr. M. L. Brown of Corry, Pa., has been elected superintendent of schools at Meadville.

—Mr. W. F. Knox of St. Charles, Mo., has been elected superintendent of schools at Jefferson City.

FRED. W. COOK,
Superintendent of Schools-Elect,
Plainfield, N. J.

—Mr. A. W. Beatty of Homestead, Pa., has been elected supervising principal at Ben Avon.

—Asst. Supt. W. P. Dean of Modesto, Calif., has been reelected for a four-year term.

—Supt. W. S. Dimmett of Rock Falls, Ill., has been reelected for the coming year.

—Mr. B. R. Bowden of Gilman, Ill., has been elected superintendent of schools at Morris.

—Mr. J. C. Wiedrich of Stillman Valley, Ill., has been elected superintendent of schools at DePue.

—Supt. C. M. Ferner of Sturgis, Mich., has been given the honorary degree of master of education by the Michigan State Normal College.

—Mr. F. R. Phillips of Croswell, Mich., has been elected superintendent of schools at Alma.

—Mr. C. A. Jewell of St. John, Wash., has been elected superintendent of schools at Republic.

—Mr. E. W. Neale has been elected superintendent of schools at Tieton, Wash.

—Supt. Owen Jones of Sedalia, O., has been reelected for another year.

—Mr. John J. Richeson of Decatur, Ill., has been elected superintendent of schools at Youngstown, O. The appointment is for a five-year term and carries a salary of $10,000 a year.

—Mr. Lamar Ferguson has been elected superintendent of schools at Decatur, Ga., to succeed G. W. Glausier.

—Mr. L. F. Fulwiler of Bloomington, Ill., has been elected superintendent of the United Township High School at East Moline.

—Mr. L. A. Peterson of Mt. Pleasant, Utah, has been elected superintendent of schools at Logan, to succeed Orson Ryan.

—Mr. H. G. Hanbloom of Harrison, Ida., has been elected superintendent of schools at Winlock, Wash. He succeeds B. P. Wilcox.

—Supt. C. A. Bruner of Washington C. H., O., has been reelected for a four-year term, beginning with September.

—Supt. Dan B. Hoffman of East Moline, Ill., has been reelected for his 21st year.

—Mr. R. C. Niswander has been elected superintendent of the Brown Township consolidated schools at Oakwood, O.

(Continued on Page 109)

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THE ONLY TOOL NEEDED TO APPLY
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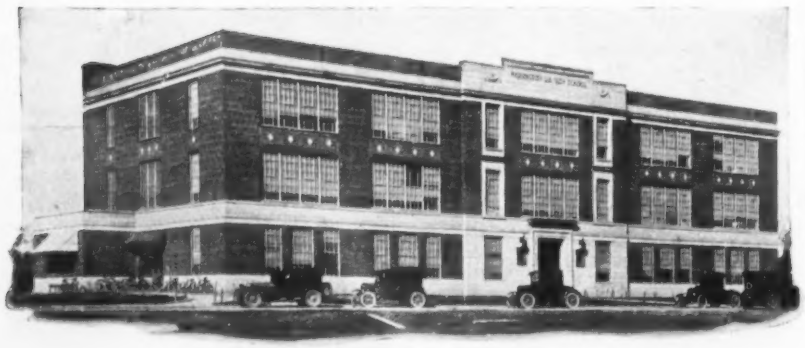

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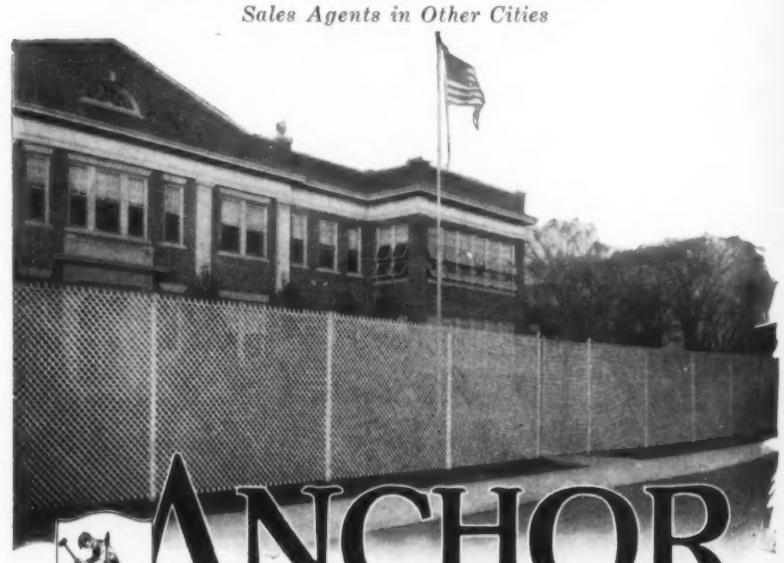

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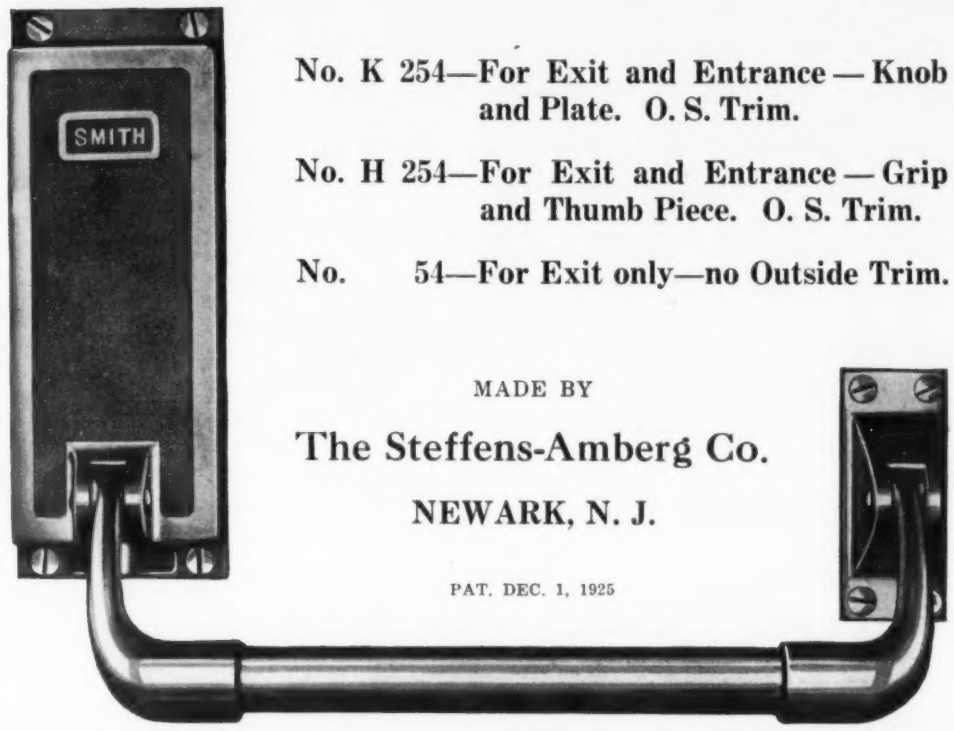
For Single Doors and Double Doors With Mullion



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No mortising.

Easily installed.

Page 23—Cat. 30

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(Continued from Page 106)

—Supt. W. L. Brooker of Asheville, N. C., has been reelected for another term of two years.

—Mr. J. D. Bramlette of Stephenville, Tex., has been elected superintendent of schools at McAllen.

—Mr. A. H. Nelson, formerly superintendent of schools at Fairbury, Neb., has retired from school work to go into private business.

—Supt. R. W. Kirk of Oregon City, Ore., has been reelected for another year.

—Supt. Jesse H. Newlon of Denver, Colo., has been elected as alumni trustees of Teachers College, Columbia University. Mr. Newlon was given the master of arts degree by Teachers College in 1914.

—Mr. G. A. Schwebel has been elected superintendent of schools at Cicero, Ill., to succeed the late W. W. Lewton. Mr. Schwebel has had fourteen years of experience as a teacher and supervisor. For the past six years he has been engaged in administrative work in Cicero as maintenance supervisor with business management duties.

—Supt. J. H. Winstrom of Springfield, Ill., has been reelected for a fourth consecutive term.

—Mr. J. H. Clement of Junction City, Kans., has been elected superintendent of schools at Independence.

—Supt. F. L. Mahannah of Monticello, Ill., has been reelected for another year.

—Mr. F. W. Cook of Plainfield, N. J., has been elected superintendent of schools to succeed Henry W. Maxson.

—Mr. J. E. Way of Westerville, O., has been elected superintendent of schools at Waverly.

—Supt. Charles P. Lynch of Lakewood, O., has announced his retirement, to take effect in June, 1927. Mr. Lynch will have completed 45 years' service in the schools. For the last sixteen years he has filled his present position.

—Mr. B. F. Rosenberry of Palmerton, Pa., has been elected superintendent of schools at Pottstown, to succeed N. W. Cameron.

—Mr. H. V. Calhoun has been elected superintendent of schools at Belleville, Ill., to succeed W. A. Hough.

—Mr. Elbert T. Moody has been reelected superintendent of schools at Nashville, Ark.

—Supt. C. E. Chrane of Boonville, Mo., has been reelected for another year.

—Supt. C. S. Pearce of Lynchburg, O., has been reelected for another year.

—Mr. Charles Miller of Goshen, Ind., has become a candidate for the republican nomination for state superintendent of public instruction. Other candidates for the office are H. N. Sherwood, the present incumbent, and A. H. Hines.

—Supt. Grace Norton Roseberry of Erie, Kans., is a candidate for the office of state superintendent of public instruction.

—Supt. W. F. Hauger of New Haven, O., has resigned to take another position in a larger field.

—Mr. R. E. Bailey of Newman Grove, Neb., has been elected superintendent of schools at Plattsmouth.

—More than seven hundred parents recently protested against the dismissal of Supt. W. E. Stark of Stamford, Conn. A resolution, unanimously adopted, asked the board to reconsider the matter. Supt. Stark was dismissed by a five to four vote the early part of May.

—Supt. H. H. Edmunds of Clinton, Ill., has been reelected for his twentieth consecutive term.

—Supt. H. M. Hill of Saugatuck, Mich., has resigned in order to pursue special work at the Western Normal School.

—Mr. F. I. McMurray has been elected superintendent of schools at Thornton, Ind., to succeed C. E. Beck.

—Supt. R. C. Smith of Macomb, Ill., has been reelected for another term.

—Supt. F. L. Rairdon of Hankinson, N. D., has announced his resignation.

—Supt. L. A. Mahoney of Davenport, Ia., has been reelected for another year.

—Supt. Jesse H. Mason of Marion, O., has been reelected for a five-year term, with a substantial increase in salary.

—Mr. W. R. Skillman has been elected superintendent of schools at Kane, Pa.

—Supt. B. S. Moyle of Maquoketa, Ia., has been reelected for his ninth term.

—Mr. Hubert Smith has been elected superintendent of schools at Hammonton, N. J.

—Supt. F. G. Taylor of Oregon Hill, Ill., has been reelected for another year.

—Supt. W. R. Henry of Green City, Mo., has been reelected for another year.

—Supt. J. R. Martin of West Plains, Mo., has been reelected.

—William T. Melchoir, for three years head of the department of education of St. Lawrence University, Canton, N. Y., has resigned. Dr. Melchoir has accepted an appointment as professor of educational supervision and director of field work at Syracuse University. His teaching schedule allows time for institute and convention work, together with extension lecturing and personal contact with the schools.

—Supt. James C. Bay of Easton, Pa., has been unanimously reelected for a four-year term, beginning with May, 1926.

—John W. Zeller, at one time state school commissioner of Ohio, passed away at his home in Columbus, on April 17th. Mr. Zeller was for two years state commissioner of education. For a time he served as county superintendent of Lucas County, and then became a member of the faculty of the Bowling Green Normal College. He was connected with the school system of Findlay for 32 years.

—Supt. J. J. Phillips of Lancaster, O., has been reelected for another four-year term.

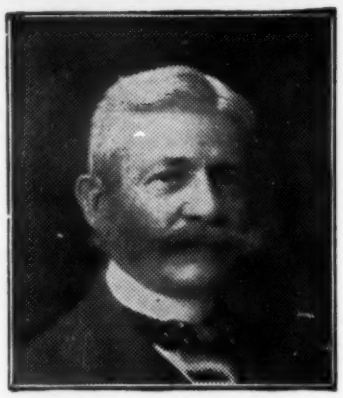
—Supt. O. E. Duff of West View, O., has been reelected for another term of three years, at a salary of $2,700.

—Mr. M. J. Ellis of New Dover, O., has been elected superintendent of schools at Agosta.

—Supt. G. E. Roudebush of Grandview Heights, O., has been reelected for another three-year term, at a salary of $5,000.

—Supt. R. L. Erwin of Steubenville, O., has been reelected for another term of three years, at a salary of $5,000.

—Supt. E. C. Franklin of Carlyle, Ill., has been reelected for the fifth time, at an increase in salary. During Mr. Franklin's incumbency, the school system has made much progress. During this time a new gymnasium has been erected, an addition built for the high school, supervised play has been promoted, physical training and music have been introduced in the grades, and a commercial department added in the high school.



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—Mr. P. K. Cesander of Rushford, Minn., has been elected superintendent of schools at West Liberty, Ia.

—Supt. L. C. Higbie of Chatfield, Minn., died suddenly on May 10th. Mr. Higbie had been in ill health for the past year and had resigned to take a year's rest. He had been superintendent at Chatfield since 1921.

—Supt. C. A. Waltz of Greenville, O., has been elected to a life membership in the National Education Association.

—Mr. Homer Smith of Belle Center, O., will not accept a reelection to the office another year.

—Supt. J. J. Hendricks of Kerens, Tex., has been reelected for the next two years.

—Supt. S. M. Melton of Alpine, Tex., has been reelected for a fifth term.

—Mr. H. M. Leinbaugh of Mendon, Ill., has been elected superintendent of schools at Lewistown.

—Mr. O. J. Barnes of Newark, O., has been reelected for another year.

—Mr. Charles F. Towne of Providence, R. I., has been appointed assistant superintendent in charge of junior and senior high schools.

—Supt. L. B. Hawthorne, of Mexico, Mo., has been reelected at an increase in salary.

—Supt. J. J. Early of Sheridan, Wyo., has been given a life membership in the National Education Association.

—Mr. L. A. Peterson of North Sanpete, Utah, has been elected superintendent of schools at Logan City, to succeed Orson Ryan.

—Supt. J. P. Treat of Manitou, Colo., has declined a reelection for the next year.

—Mr. H. C. Knight of Littleton, Mass., has been elected superintendent of schools at Belchertown, to succeed A. R. Lewis.

—Mr. Frank A. Rexford, who resigns as principal of the Brooklyn Evening Technical School, Brooklyn, N. Y., after four years' service, was given an expression of appreciation by the students and faculty at their annual commencement exercises. Mr. Rexford will devote himself exclusively to the work of supervisor of civics in the high school division of the board of education.

Mr. George C. Wigle, administrative assistant to Mr. Rexford, has been named to succeed him as principal.

—Miss Ada Bicking, supervisor of music in the schools of Evansville, Ind., has accepted the position of assistant superintendent of education for the state of Michigan. Miss Bicking will be a member of the summer school faculty of Ohio University during the present summer.

—Supt. John F. Deering of West Warwick, R. I., has been reelected to serve his fourteenth consecutive term.

—Mr. C. W. Wotring, for seven years supervising principal of schools at East Greenville, Pa., has been elected to a similar position with the Mauch Chunk Township schools at Nesquehoning. Mr. Wotring is a graduate of Franklin and Marshall College and Columbia University, and previously taught schools at Souderton and Shimerville.

—Mr. H. A. Ferguson, formerly principal of the Battin high school at Elizabeth, N. J., has been elected principal of the high school at Montclair.

—Mr. Henry E. Jenkins, 70 years of age, and district superintendent of schools in New York City, was tendered a testimonial luncheon on May 15th, at which more than 1,200 friends, teachers, and educators were present. Mr. Jenkins will retire from the school field on September first.

S. J. SMITH,
Superintendent of Schools,
Mineral Wells, Texas.

—Mr. W. E. Scott has been elected superintendent of schools at Fairbury, Neb., to succeed A. M. Nelson.

—Mr. Howard Prine has been elected superintendent of schools at Parma, Mich.

—Mr. H. D. Anderson of Barry, Ill., has accepted the superintendency at Gilman.

—J. W. Dowd, president of Toledo University, and a former head of the Troy, O., schools, died at his home in Toledo, at the age of 79. Prof. Dowd was superintendent of the Troy schools from 1875 to 1880.

—Supt. J. J. Beall of Delta, O., has been reelected for another year.

—Supt. O. D. Kessler of Edgerton, O., has been reelected for the next school year.

—Supt. A. H. Unland of Versailles, Ill., has been reelected for another year.

—Mr. J. A. Brown of Amanda, O., has been elected superintendent of schools at Somerset.

—Mr. H. E. Milligan of Ansonia, O., has been elected superintendent of schools at Milford.

—Miss Myrtle C. Dickson is the first woman to be appointed as headmaster of a high school in Boston. Miss Dickson is a graduate of the Cambridge high school and of Radcliffe College. In 1909 she was appointed a teacher of modern languages in the Roxbury high school.

—Mr. William F. Knox, of St. Charles, Mo., has been elected superintendent of schools at Jefferson City, at a salary of $4,500. Mr. Knox is a graduate of Drury College, Springfield, Mo., and holds a master's degree from the University of Missouri.

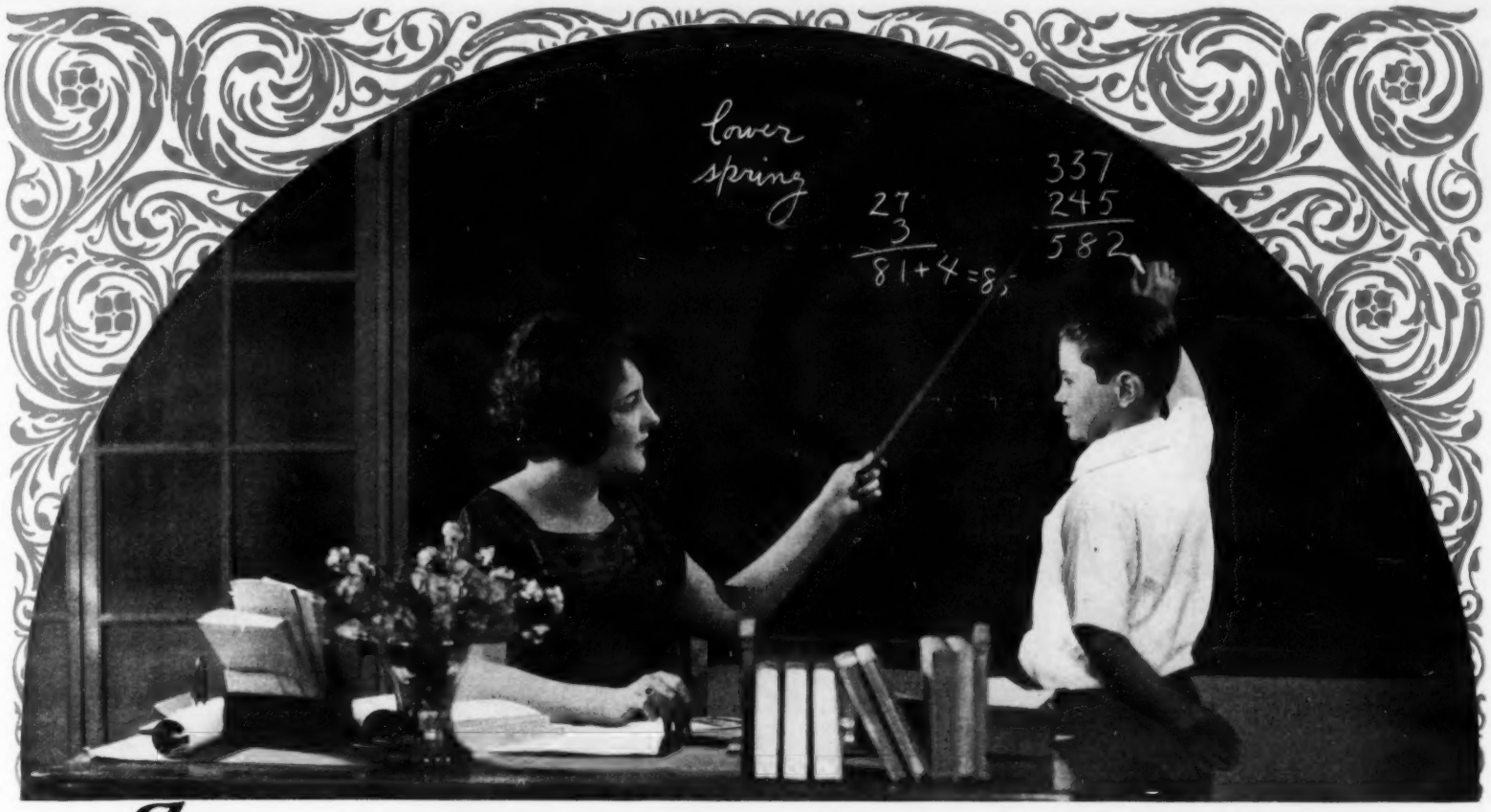
Mr. Stephen Blackhurst, of Shelbina, Mo., succeeds Mr. Knox at St. Charles.

—Mr. G. E. Oswald has been appointed supervising principal of the Catasauqua, Pa., high schools, to succeed H. J. Reinhardt, who resigned after fifty years' service.

—Supt. E. J. Woodward, of Brownwood, Tex., has been elected president of the Mid-Texas Teachers' Association.

—Supt. L. L. Caldwell, of Hammond, Ind., has been reelected for another four years, at a salary of $10,000.

—Supt. N. S. Holland of Stamford, Tex., has been granted a year's leave of absence to study at Teachers' College, Columbia University.



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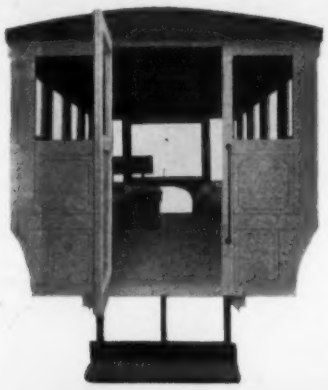

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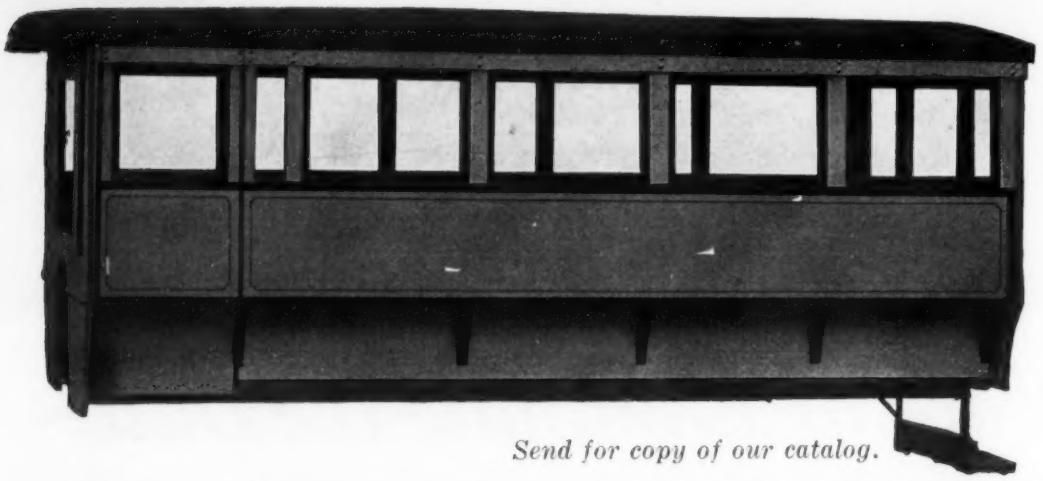

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SCHOOL FINANCE AND TAXATION

THE CALIFORNIA TAX PLAN

The main feature of the plan of taxation employed in California is that the cities and counties derive their support through a direct property tax, while the state government gets its revenue from a corporation tax. The question which has been asked is whether the schools fare as well under this as they might under some other plan of taxation.

The school people of the state of Washington have sounded out the leading educators of California on the subject. State Superintendent Will C. Wood, when asked on the desirability of the California plan, said:

"Most emphatically I advise you to oppose such plan of taxation. The segregation of state and local taxation as we have it in this state has resulted in a grand effort to shift tax burdens from state to county or from county to state. As a result of such shifting both the taxpayer and public functions have suffered. The schools undoubtedly would have suffered greatly were it not for the fact that we secured the adoption of Constitutional Amendment 16, which prevents the shifting of the state's share of school support to the counties. Undoubtedly the teachers' colleges of this state have suffered through the operation of our present plan."

Secretary Arthur H. Chamberlain of the California Teachers' Association holds that while the California plan has some merits, he advises against its adoption: "The California plan is somewhat unique. Taxes accruing from personal property are applied to the conduct of local, municipal and county affairs. State activities are carried on from the taxes imposed on the public-service corporations—railroads, telephone and telegraph lines, power and light companies and the like."

If the corporation should not pay their just share of taxes, Mr. Chamberlain contends, the schools in the state would suffer. He adds: "If, in Washington, there is doubt that a constitutional provision safeguarding the schools could be carried, I should not advocate for that state the system of taxation in vogue with us."

Mark Keppel, superintendent of the Los Angeles County Schools, holds that while the divided taxation system of California is not an unqualified success, it is better than any previous system heretofore employed. He concludes his observations by saying: "I think school organizations ought to maintain taxation-studying bodies so that there might be developed a body of knowledge upon the subject of taxation, so that when tax reforms are proposed, real tax reforms will be secured instead of the adoption of somebody's scheme in the hope that it may prove to be a better thing than is being used."

FINANCE AND TAXATION

—At Providence, R. I., the statement is made that there must be greater coordination of the several forces if the $5,000,000 building program is to be completed within a reasonable time.

—The Tacoma, Washington, board of education has entered upon a policy of retrenchment. The kindergartens will be eliminated and the other classes will be enlarged.

—A two-mill tax rate increase decided upon by the Norristown, Pa., school board will yield approximately $45,000. It is proposed to erect a vocational school at a cost of $35,000, with an equipment of $20,000. The Norristown Herald holds that the increase was warranted but deplores an inadequate assessment system whereby the smaller property owner is hit harder than the larger.

—Mamaroneck, N. Y. The school board has adopted a budget of $403,768 for the school year 1926-1927.

—Hazen, Ark. The school board has asked the voters to approve an additional eight mills, over and above the constitutional twelve mills for school taxes. It is necessary to obtain the extra eight mills in order to conduct the school for the next year.

—Muncie, Ind. The total estimated valuation of the city schools, including the central high school, Wilson high school, and thirteen grade schools, is $1,622,394. A total of $694,250 is carried on all of the buildings in insurance, which includes protection on the buildings and contents. Of this amount, $421,700 is carried on the different buildings and $40,550 on the contents.

—Statistics comparing the cost of elementary, high school, and vocational school pupils in St. Paul, Minn., have been compiled by J. W. Smith, administrative research statistician of the school system. The figures show that it cost the city an average of 8.64 cents every hour for each child who attended school last year. Based on the average number of students enrolled, the yearly cost per pupil was $85.19.

The per pupil costs, figured, on average daily attendance, during the year are, respectively: elementary pupils, $82.62; high school pupils, $119.18; vocational school pupils, $420.54. The latter figure does not, however, take into account the Federal and state aid to the vocational school, nor the income derived from work turned out at the school. Subtracting the sums thus derived, the vocational school pupil cost to the city is found to be $254.73.

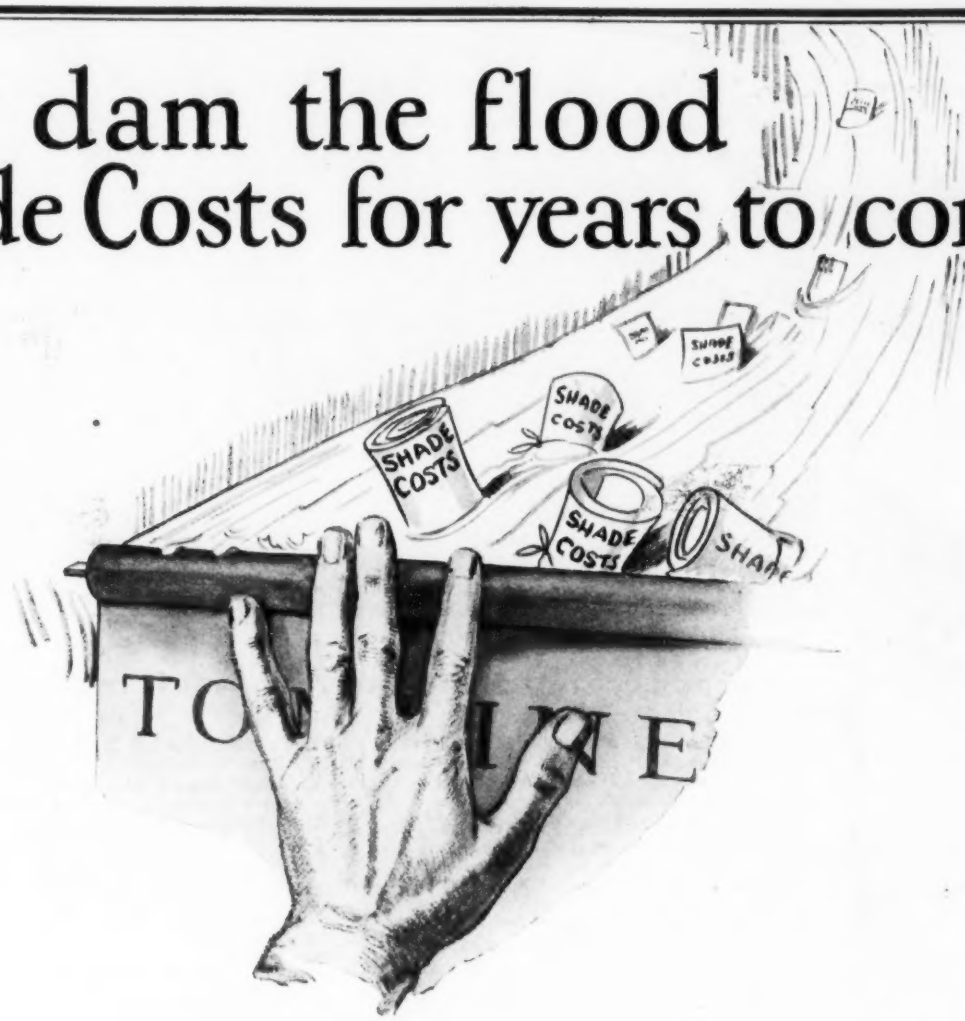
While the average student-hour cost is 8.64 cents, the elementary student hour cost drops well below this and the high school and vocational school student hour costs climb well above. They are, respectively: elementary, 7.73 cents; high school, 13.25 cents; and vocational school, 13.52 cents.

(Continued on Page 114)

THE MODERN SHIRKER

There is scarcely any one of us so deaf but that he sometimes hears an inner voice sounding the call to larger service. But human nature is so recalcitrant and inflexible that the voice does not always please us. There seems to be something unwelcome about what it says, something disturbing in its appeal. We shut the door of our minds. We prefer to go on as we are, undisturbed and unchanged, to live where ease and circumstances dictate. The things of yesterday are considered good enough and we do not wish to modify them. The older we get the more our lives are controlled by habits, remembered circumstances and pleasant associations, and these are slow to change. We accept the day's routine with content and leave it to others to build a new civilization.—Lotus D. Coffman, President, University of Minnesota.

This year dam the flood of Shade Costs for years to come!



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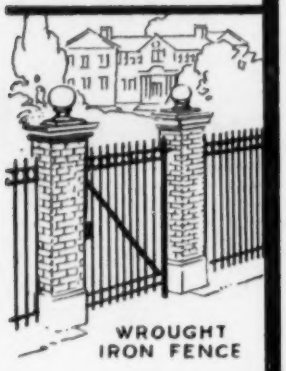

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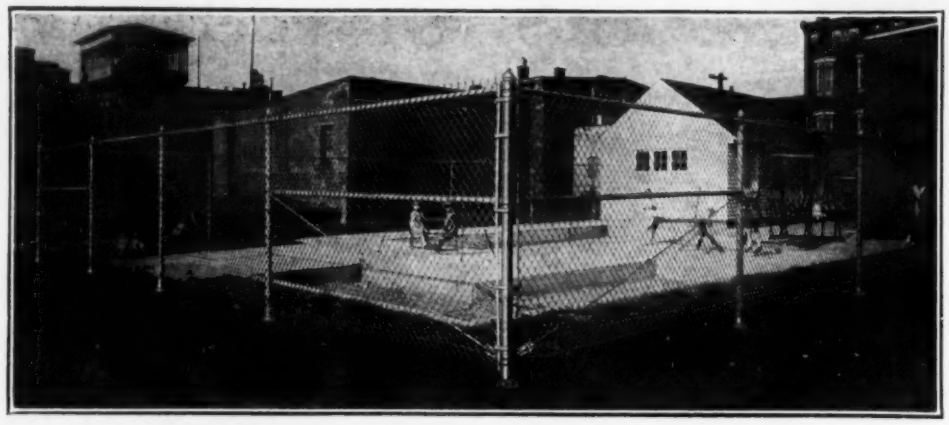

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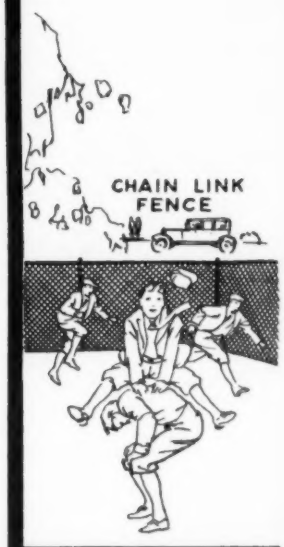

ENCLOSURES

(Continued from Page 112)

Mr. Smith points out in this connection that an epidemic of measles or whooping cough, which reduces the attendance, raises the apparent cost inasmuch as the cost of running the schools remains the same for a decreased attendance as when the entire enrollment is present. While close to 30,000 children are enrolled in the grade schools, about 7,000 more in the junior and senior high schools, and more than 300 in the vocational school, attendance figures at the Department of Education showed an average daily attendance in the grade schools of only 28,219; in the high schools of 6,200 and in the vocational school of 274.

Those students who do not attend school cost the city approximately one-half of 1 cent an hour for each pupil absent. If 3,000 pupils are thus absent, the taxpayers are paying $15 an hour for that absence.

—Tacoma, Wash. The failure of the voters at the last election to allow an extra tax levy for school purposes has made it necessary for the school board to adopt economy measures. The board will dispense with the classes for backward students, which will bring a reduction in the teaching staff of 27. The backward classes were conducted by auxiliary teachers who assisted slow students until they were able to return to the regular class.

The summer schools will be continued this year, since they are self-supporting. The tuition is $15, payable in advance, which allows the pupil to receive instruction in two subjects.

—Supt. O. L. Reid, of Youngstown, O., in a special report covering the past five years, shows that the schools have been wisely and economically administered during that period. Comparing the educational costs of 1924-1925 with those of 1916-1917 on the basis of the superintendent's responsibility, the present superintendent is responsible for 76 cents of the pupil per capita cost increase in the two years. The per capita cost increase is attributed to the educational developments of the last five years.

It is shown that the per pupil cost was in 1923-1924 $8.44 below the average of 35 cities over 100,000. This represents a saving for that year, as compared with the average city, of $197,850. Changes effected in the last five years in decreasing over-ageness and increasing under-ageness represent a substantial financial saving for which no credit has been taken in arriving at the net responsibility of 76 cents per pupil.

The percentage of the teaching corps having two or more years of professional training has increased 73.5 per cent in the last five years. Over 81 per cent of the entire teaching corps now has that amount of training, and the number of college graduates has increased 95.5 per cent in five years.

It is estimated the total increase in the pupil per capita cost for the four years because of the automatic salary increases was $4.05. Thus, of the total increase for which the superintendent could be held responsible—$4.81—all but 76 cents could be accounted for on the basis of the automatic salary increases fixed before the superintendent went into office.

—Perry, Okla. The school board has asked for an increase of 2.5 mills in the school levy.

—High school boards in the several counties of the state of Washington are this year called upon to fill out a new blank showing the cost of operation and the items making up the total. In the summary are shown the per capita cost of educating pupils in the high schools of the district. The change is an effort of the state board to obtain accurate data on the subject.

—Figures compiled in the office of the state superintendent of public instruction of Washington show that the school system of Longview was operated at the lowest cost per pupil of any system in the state. The Longview cost was $56.55 per pupil. Raymond was second with a cost per pupil per year of $56.87.

—Missoula, Mont. The cost of operating the grade schools of the city for the coming year will be $185,000. The budget for the year is $7,800 less than for the present year.

—Boise, Ida. The voters recently approved an increase of four and one-half mills, in addition to the eight mills authorized by law for the operation of the schools. The total levy carried was for sixteen and one-half mills, for all school purposes. It includes twelve and one-half mills for the operation of the schools, three and one-half mills for bond interest and redemption and one-half mill for capital improvement and redemption of capital improvement bonds. The levy is based on an estimated valuation of $21,787,441 for the district.

—The apportionment of state school moneys for the 1926-1927 school year was made by the New Jersey State Board of Education at its June meeting. The board approved the distribution of $39,000 in emergency reserve funds for needy rural districts. The balance of $61,000 will be turned into the general school fund for distribution among the several counties.

—The school budget for the Kalamazoo, Mich., schools for the year 1926-1927 has been fixed at $1,301,000, which is an increase of $46,000 over last year's budget. The amount to be raised by taxation will be a little more than $1,000,000.

—Rock Island, Ill. The school board has approved a budget of $531,930 for the school year 1926-1927. The budget provides for a reduction of $23,000 in expenditures for the improvement of grounds, the alteration of buildings, furniture, and other equipment. A total of $311,200 is provided for instructional service.

—Sedalia, Mo. At the school election held on May 14th, the bond election was lost and the school tax levy was carried. A school tax of $1 was granted by vote of the people.

—Boston, Mass. The school board has approved appropriations totalling $1,159,897, of which $1,089,560 are for alterations, repairs, and fire escapes, $53,428 for physical education, and $17,809 for school physicians and nurses.

—Blackfoot, Ia. A levy of ten mills for the general school fund has been adopted by the board. An extra two mills will be required over and above the eight mills allowed by law.

The school bonded indebtedness has been reduced by $25,000 by a vote of the school board.

—Fredericktown, Mo. The total levy for school purposes has been reduced from $1.68 to $1.35.

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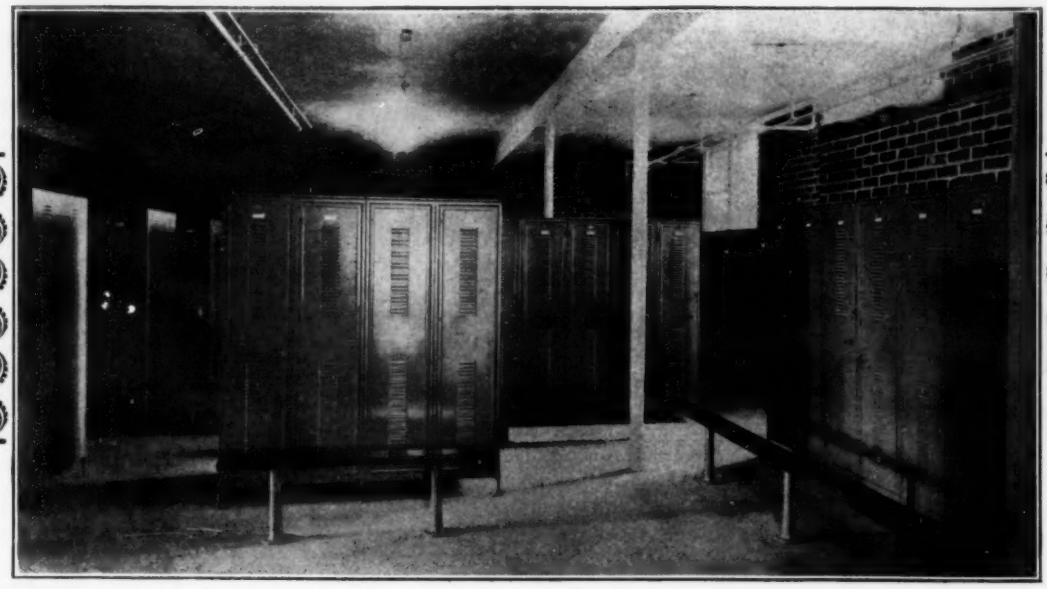

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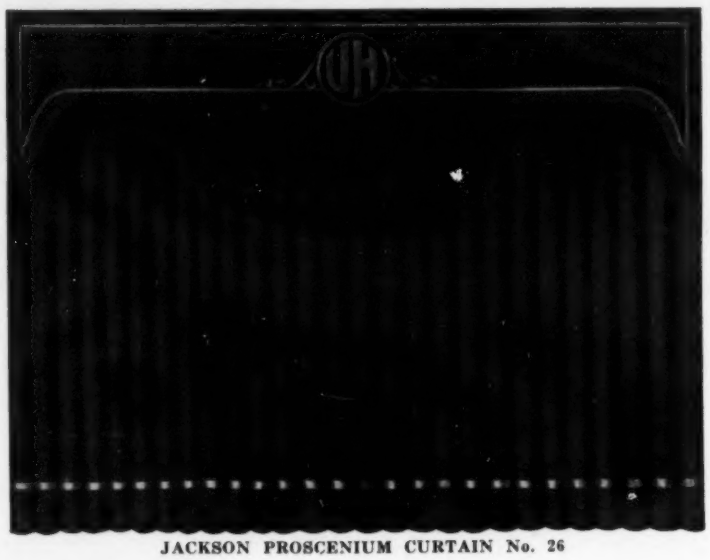

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Where "THE OVERHEAD IS LOW."

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(Concluded from Page 114)

—Lincoln, Neb. For the fourth consecutive time the First Trust Company of Lincoln has been the successful bidder on the bonds for the school district. The Lincoln firm has purchased a total of two and one-half million dollars worth of school district bonds.

—Kalamazoo, Mich. The budget for school expenses for the year 1926-1927 will approximate $1,373,075. This amount is $90,000 more than the total budget of last year.

—Allotments from the $5,000,000 state school building fund to the 191 prefects in 74 counties of North Carolina have been distributed under the direction of Mr. B. R. Lacy, state treasurer. A short term loan was negotiated so that the entire $5,000,000 are immediately available to the various counties.

—Nevada, Mo. The school board has ordered a reduction of twenty cents in the school bond levy tax. The levy was 80 cents and this was reduced to 60 cents.

—Kalamazoo, Mich. The school board has adopted a budget of $1,371,150 for the school year 1926-1927.

—The school board of Struthers, O., has been short-weighted 11,739 pounds, according to indictments returned against a local coal dealer, by the grand jury.

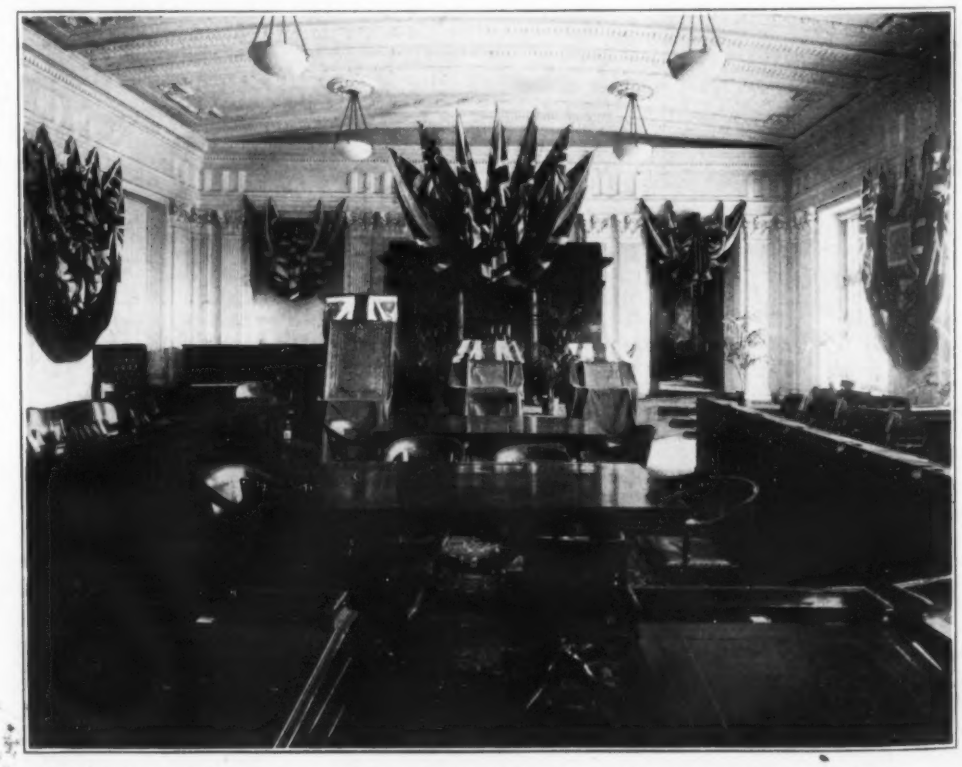
The bills allege that each of the eight loads delivered was short more than 1,000 pounds. The greatest shortage was 1,699 pounds. One exception in the total of nine was 250 pounds short. With coal at the present price, the loss is estimated at $25. The dealer has entered a plea of not guilty and his case will be tried in court.

—Dayton, O. Expenditures of the board of education for the past two years averaged more than $150,000 per month, in addition to salaries, upkeep, equipment and overhead, according to a recent report. The expenditure of such a large amount, outside of routine requirements, predicates expansion or extravagance. In this case it is expansion, the board having started on a building program amounting to $4,000,000. The program which will provide for new buildings, additions to others, and fireproofing and rehabilitation of older buildings, will be completed by September, 1927.

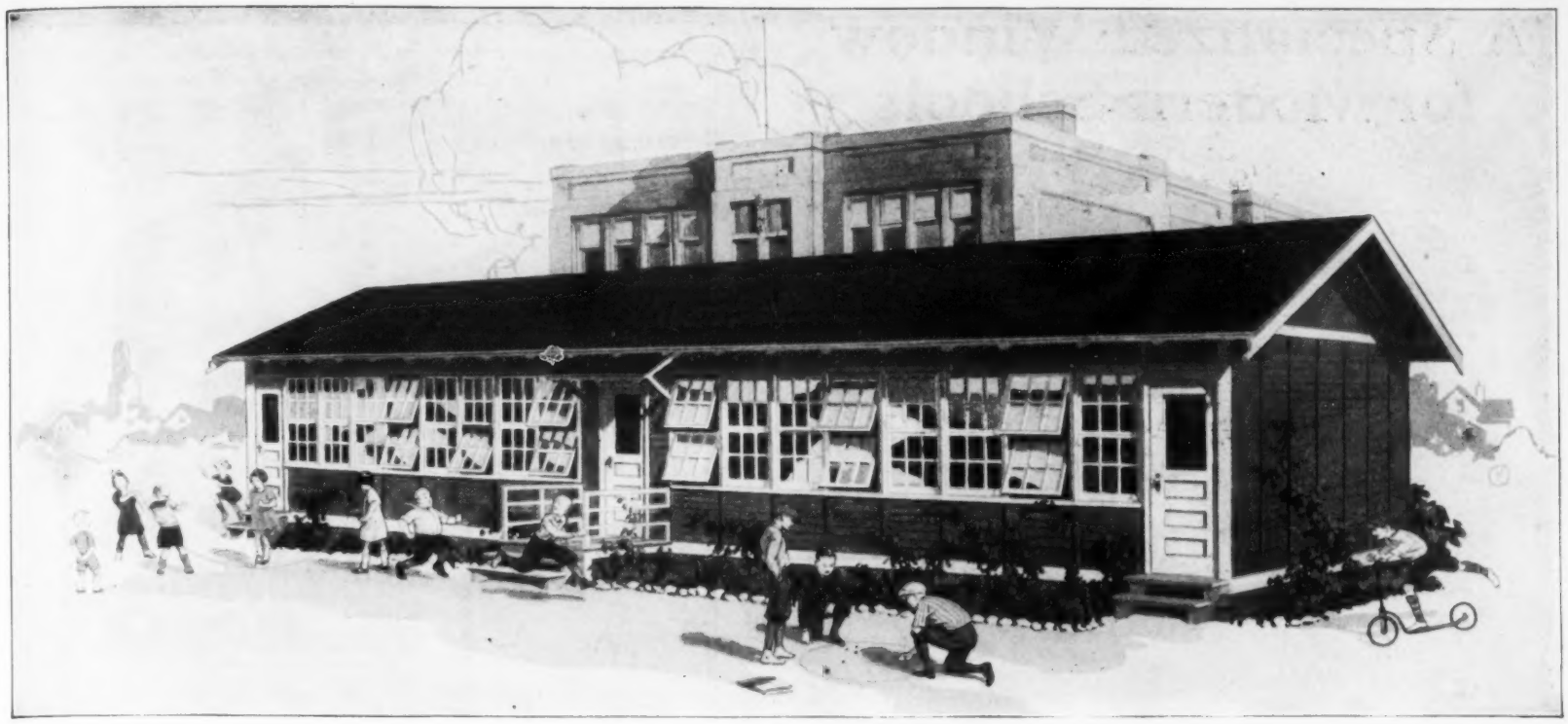
The El Paso, Texas, schools must have from $75,000 to $100,000 more next year. A. H. Hughey, superintendent of schools, holds that an 86 cent tax rate on $100,000,000 is not enough. He adds: "Of course the administration of the schools can run them next year somehow on $75,000 less than is fundamentally needed, but fair warning is hereby given to El Paso that a year from now things may not be satisfactory in the El Paso schools. We may hide our deficiencies a while, we may cover up some shabby spots, but in the end El Paso school patrons will require school improvement that will be more painful to make later than now.

—The Omaha, Nebr., school board discussed in executive session a probable deficit in school funds. The amount may reach the $100,000 mark.

—The report of the Providence, R. I., school committee shows that the costs for 1925 were $3,097,871. Of this amount, $2,212,901 went for teachers' salaries; janitor service, $231,952; fuel, $71,177; evening schools, $59,067, and miscellaneous, including books and supplies, $528,738. The per capita cost based on average attendance is $81.81. This is an increase over last year of $6.48.



BOARD ROOM OF THE BOARD OF EDUCATION AT TORONTO, ONTARIO, CANADA.

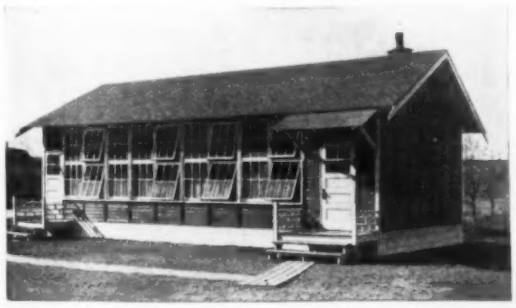


Ready for the Youngsters That Will Show Up at the School Door in September

WHAT to do with all the youngsters that will show up at the school door this September is a problem that is perplexing School Boards in all parts of the country, in the cities and in the rural districts.

The board is faced first with the immediate problem of finding quarters for the housing of these children.

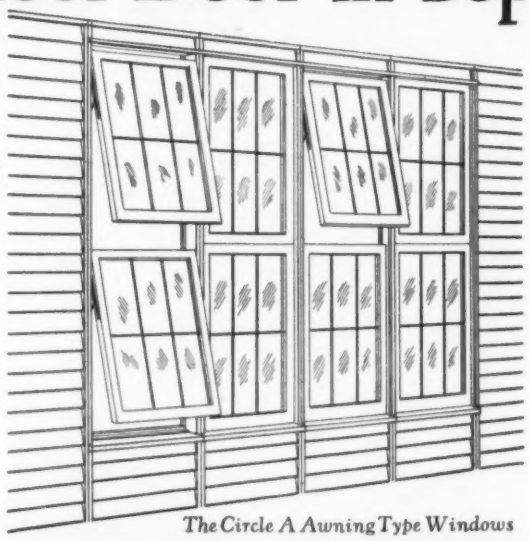
Secondly, the board must decide how far the change is likely to be permanent,



how far they should go in providing permanent structures.

Fortunately for boards faced with the pressing need for more room, there is a way available.

It is a way that provides immediate quarters to take care of any overflow.



The Circle A Awning Type Windows

It houses the children in warm, light, comfortable, healthful rooms.

It does this without the permanent expenditure of large sums of money. The major part of the investment will be available in cash, when the need has passed or when it is finally determined that permanent structures should be built.

There is no guesswork about this way. It has been proven a good way by the experience of hundreds of school boards in many parts of the country.

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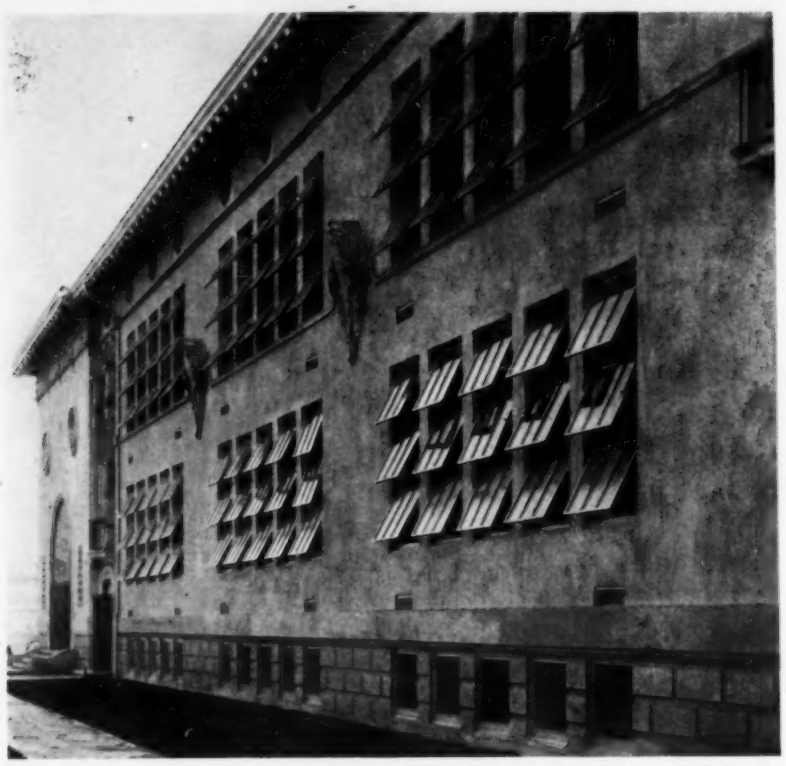
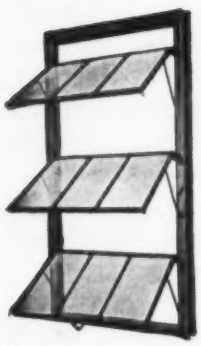


St. Mary's Parochial School, Phoenix, Ariz. Archt.: Lescher & Mahoney. Contr.: A. F. Waselewski Co. Truscon Donovan Awning Type Windows, Architectural Projected and Circle-Head Windows, Industrial Projected Windows in Basement.



Note this ingenious modern solution of the combined shade and ventilation problems in the Truscon Donovan Awning Type Windows. All Sash operate from the lower as manual, or separately. A child can open or close all sashes at once with ease.

THE Donovan Awning Type Steel Window was developed by the Truscon Steel Company primarily for American school buildings in accord with the method of ventilation recommended by the New York Commission on Ventilation, headed by Dr. C.-E. A. Winslow of Yale School of Medicine. Donovan Windows embody all the practical features of the ideal school window. They provide maximum daylight without sun glare and controlled ventilation without draughts. They have been used in important school buildings throughout the country. Built into Donovan Windows are fifteen distinctively individual features which recommend themselves to your consideration.

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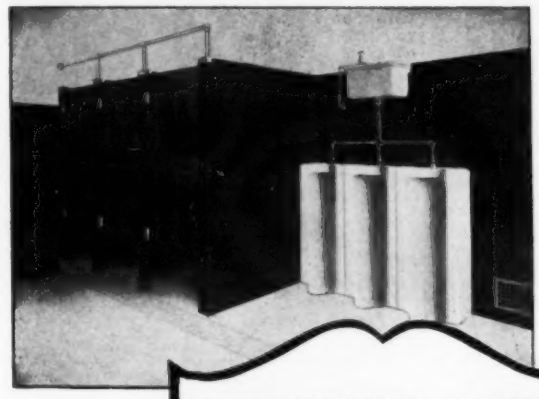

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TEACHERS' SALARIES

BERKELEY ADOPTS NEW SCHEDULE

—The school board of Berkeley, Calif., in May last, adopted a revision of its salary schedule by the addition of three increments to the maximum of each class of teachers. Under the schedule, teachers are divided into four groups and are advanced with the new school year at the rate of three increments above the salary formerly received.

Under the schedule, teachers in Class I are those having had two years' training above the high school in a standard normal school or college. Such teachers will be given a minimum of $1,300 and a maximum of $2,110, which is reached by nine increases of $90 each.

Teachers in Class II are those having had three years' training above the high school in a standard normal school or college. Such teachers will begin at a minimum of $1,400 and will be paid a maximum of $2,300, which is reached by ten increases of $90 each.

Teachers in Class III are those having had four years' training above the high school and who hold a bachelor's degree. Such teachers will begin at a minimum of $1,500 and will be paid a maximum of $2,545, which is reached by eleven increases of $95 each.

Teachers in Class IV are those having a master's or a doctor's degree. Such teachers will be given a minimum of $1,600 and a maximum of $2,700, which is reached by eleven increases of $100 each.

Under the rules, teachers in Class I who elect to continue on the schedule in use previously, and who received a salary of $1,920 per year previous to 1923, or who attain that salary before 1927, will be paid at the rate of $2,130 as long as they remain in this class. The salary is determined by the addition of three $90 increments to the present maximum of $1,950. It is provided that any teacher in the group who has not attained the maximum of $2,220 may advance annually on the schedule at the rate of $90 a year.

A teacher whose maximum salary under the previous schedule was $2,220, and who chooses to continue under that schedule, may in the future, have added to her present salary three increments of $95 each, and may advance annually until the maximum of $2,505 per year is attained at the rate of $95.

The salary schedule for principals, adopted in 1923, has been revised by the addition of three increments to the maximum of each class of principals. Each principal will be advanced with the opening of the school year by three increments above the salary formerly received.

Principals in Class III are those with four years' training above the high school and in possession of a bachelor's degree. They will be given a minimum of $2,220 and a maximum of $3,100, which is reached by nine payments of $100 each. Principals in Class IV are those having a master's or a doctor's degree. They will be paid a minimum of $2,300 and a maximum of $3,350, which is reached by ten increases of $105 each.

NEW YORK'S SALARY INCREASE VETOED

Never in the history of New York state was a school measure supported with greater vigor than was the Ricca salary increase bill which would have added some $17,000,000 to the payroll of the New York City school system, and which was championed by thousands of teachers. Large delegations appeared at the meeting held at Albany before legislative committees and the governor and yet Governor Smith vetoed the measure.

"The governor's objection to these measures is based on the principle that such matters should be determined by local authorities rather than by the state legislature," explains Howard W. Nudd of the Public Education Association. "He maintains, with reason, that the legislature is incompetent to pass upon intricate salary schedules and that it is not good policy to mandate the city in respect to matters which it can handle more intelligently itself in the light of its own financial ability. The teachers, on the other hand, maintain with considerable justification that legislation affords their only salvation, since the city in the past has been consistently unwilling to increase their pay unless compelled by law to do so."

The press reports from Albany quote the governor as saying to a delegation of teachers: "Whenever I have signed teachers' salary bills in the past, the legislature has provided the necessary money. In 1919 the legislature appropriated $11,800,000, and in 1920, when all of the teachers in the state got salary increases, it appropriated $33,150,000. This year the Friedsam commission had a bill introduced by Senator Cole appropriating $18,500,000 for school aid for the coming year and $5,000,000 annually for the three succeeding years.

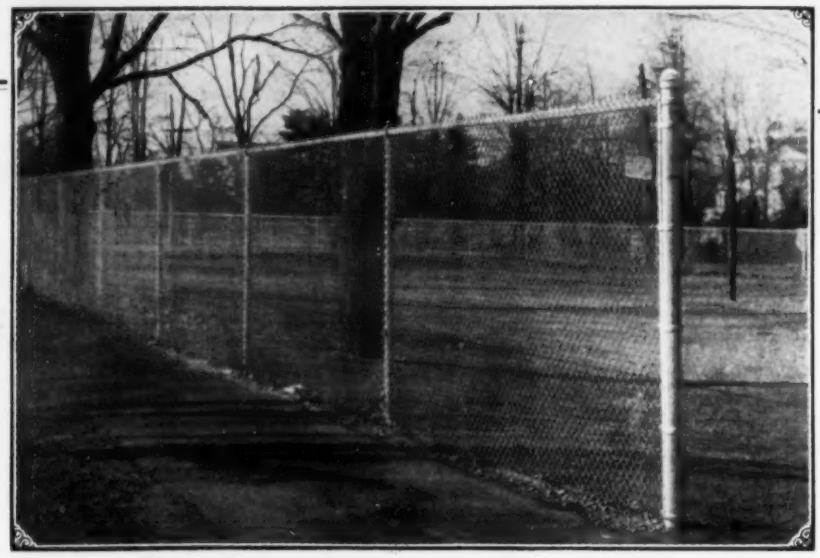
"And I came up here near the end of the session, and in that room made a personal appeal to the Assembly leaders to pass the Cole bill in order to meet the increased cost of the Ricca bill. I then went over to the senate leaders and did the same. When they passed the Ricca bill and refused to send me the Cole bill I was unable to escape the conviction that they withheld the Cole bill purposely so as to make it impossible for me to sign the Ricca bill.

"It is unfortunate that we have had in the last two years a politically inclined legislature. They preferred to play party politics with these measures. If the legislature had provided the money there would have been no need of you coming up here today, for I would have paid no attention to the opposition to this bill."

Besides the Ricca bill applying to teachers only, the governor disapproved the Farrell bill providing for increases in the salaries of the superintendent, associate superintendents, district superintendents, training school and high school principals; the Phelps bill, which would have given to teachers of the seventh and eighth grades the same salary paid to those in the junior high schools; the Feld bill which would have provided a uniform salary schedule for teachers in part-time schools, and the Antin measure, to increase the salaries of teachers in the junior high schools.

NEW SCHEDULE FOR PHILADELPHIA

—Philadelphia, Pa. The school board has adopted a recommendation of its special committee, providing for a salary schedule, which seeks to lessen the gap between the elementary and high schools and to work out a schedule with proper and logical relations between all its parts. The schedule which went into effect Mav 1, 1926, entails upon the board a financial obli-



This installation of Type OTR fence of Armco Ingot Iron is giving much needed protection to children of the North School, Wellesley, Mass.

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School property, during vacation months, requires Page Fence to insure against michief-makers and damage that occurs from the intrusion of undesirables.

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Page Fence is made of copper-bearing steel, or Armco Ingot Iron, and given a uniform, extra heavy coat of zinc galvanizing after weaving. It requires but low cost for maintenance per year.

School officials all over the country have found page service ideally suited to their needs. Whatever your requirements we shall be glad to work with you in planning complete protection for your buildings and playgrounds.

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gation of $200,000 for 1926, $500,000 for 1927, $850,000 for 1928, and $1,150,000 for 1929.

Changes and Conditions

Elementary teachers and attendance officers, who possess qualifications equivalent to those of elementary teachers as follows:

	Minimum	Increments	Maximum
Grade teachers:			
Present	$1,200	8 $100	$2,000
Proposed	1,200	12 100	2,400
Attendance officers:			
Present	1,200	5 75	
		4 100	2,000
Proposed	1,200	12 100	2,400
Special class teachers:			
Present	1,500	8 100	2,300
Proposed	1,500	12 100	2,700
Teachers of school of practice and demonstration:			
Present	1,800	8 125	2,800
Proposed	1,800	10 125	3,050
Normal school teachers:			
Present	1,800	8 175	3,200
Proposed	1,800	8 200	3,400
Principals of practice, demonstration, continuation, and trade schools:			
Present	4,000	2 250	4,500
Proposed	4,000	4 250	5,000
Principals of elementary schools, Class C:			
Present	2,100	8 237.50	4,000
Proposed	2,600	8 237.50	4,500
Principals of elementary schools, Class B:			
Present	2,100	8 175	3,500
Proposed	2,600	8 175	4,000

ITHACA'S NEW SALARY PLAN

The basic thought in the salary plan recently adopted by the board of education of Ithaca, N. Y., is to recognize the intrinsic value of each individual teacher's service. While tenure is recognized in the salary schedule, the controlling factor is expressed in the phrase "what you get depends upon what you do."

The schedule is of the "single service" type so that the board of education pays for preparation and results, rather than position in the high school or grades and length of service.

The following chart, together with the explanatory text issued by Superintendent F. D. Boynton, presents the plan quite completely.

Other conditions provided by the new rules are:

a. **Leave of Absence for Study and Travel.** Any teacher who remains in the employ of this board for a period of twelve (12) years may, upon request approved by the superintendent of schools, be granted leave of absence for one-half the school year with full salary, or for the full year with one-half salary for the purpose of study and travel **provided**: 1st, That such teacher has secured the four advanced study increments provided for in the salary schedule; **2nd**, that such teacher agrees to return and remain in the services of this board for a period of three years; **3rd**, that the courses of study and travel during such leave comply with the regulations of this board; and **4th**, that the courses of study and travel are approved and recommended to this board by the superintendent of schools.

b. Thereafter, any teacher may be granted such leave of absence for study and travel thus approved for each additional seven years that said teacher remains in the employ of this board.

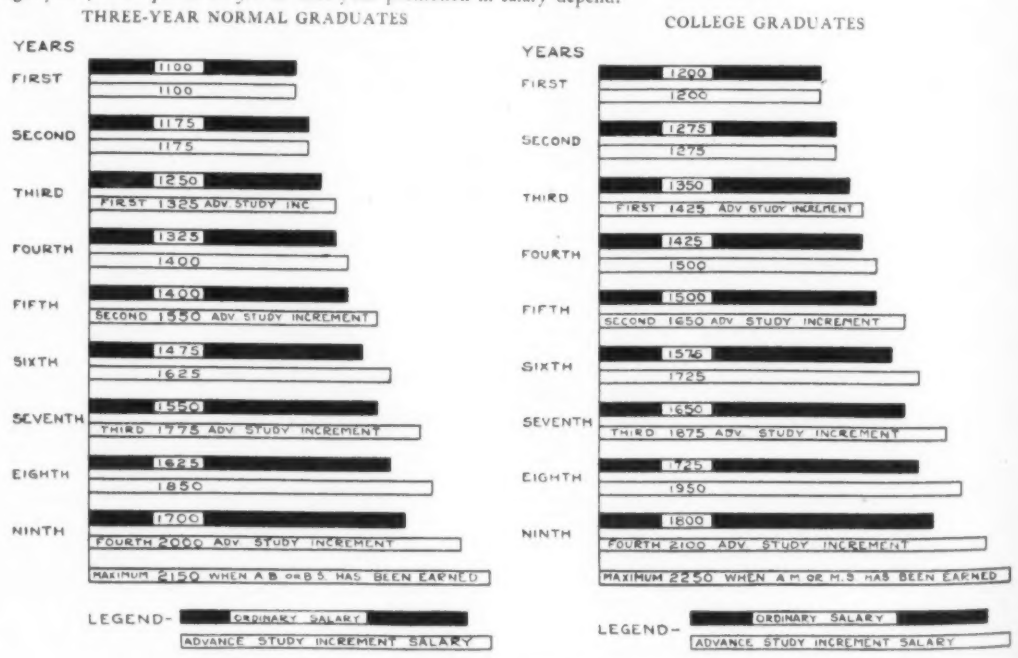
c. Those now in the employ of this board who meet the conditions named in paragraphs 1 and 2 above, may be granted such leave of absence for study and travel upon request with the approval of the superintendent of schools in the order of their application but not more than four such leaves may be granted in any one year without the consent and concurrence of this board.

The service increments provided for in the schedule read as follows:

(Continued on Page 122)

ITHACA PUBLIC SCHOOLS—Superintendent's Office

What you get depends upon what you do. This chart will show you how this is accomplished. By advanced study, any teacher in any grade or department and without changing her grade or department, may raise her own salary $450 above the schedule maximum; by superior excellence in her daily work she may secure the eight annual increments in much less than eight years; *thus upon what you do* does your promotion in salary depend.



DETAILS OF THE ITHACA SINGLE SALARY SCHEDULE.

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FUN-FUL Playground Equipment is the result of experience, a quarter of a century devoted exclusively to the development and manufacture of children's outdoor health building goods by this Company. The best you can buy, this we guarantee.

We offer the most comprehensive line to select from, nothing but approved and guaranteed apparatus.

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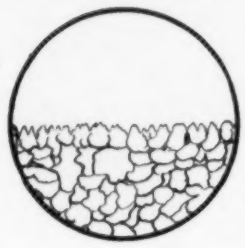
FLOORS WEAR OUT

owing to the breaking down of the edges of the minute pores or cells.

THE OBVIOUS REMEDY is to support these edges so that they cannot break down.

How the Swan Floor Treatments do this is shown below.

MAGNIFIED UNTREATED SECTION OF AVERAGE CONCRETE FLOOR.



Pores and haircracks wide open.

Unsupported edges break down under traffic and cause dust.

Open pores and haircracks collect and retain dirt, moisture and filth.

Impossible to clean thoroughly.

Floor unsanitary.

SAME SECTION TREATED

Pores and haircracks ***filled and covered*** with tough binding material that improves under traffic.

Supported edges cannot break down.

Dusting and disintegration ***impossible.***

Result: ***A smooth, hard, non-absorbing, non-dusting surface.***

Floor sanitary.

MAGNIFIED UNTREATED SECTION OF AVERAGE WOOD FLOOR

Surface porous—easily splintered and scratched.

Readily absorbs moisture, oil and grease.

Dirt is ground into the surface under traffic.

Difficult to clean, as scrubbing drives in the dirt.

Washing compounds attack fibres.

Floor unsanitary.

SAME SECTION TREATED

Pores *filled and fibres bound* with a tough binding material that improves under traffic.

Surface is *smooth* and *wear-resisting.* Impervious to oil, grease and moisture.

Dirt and filth cannot penetrate — remain on surface.

Easily cleaned with dry mop or clear water.

Scrubbing or washing powders not necessary.

Floor sanitary.

Swan Treatments for Concrete and Wood.

THE SWAN COMPANY, 101 Tremont St., Boston, Mass.

(Continued from Page 120)

a. Any teacher who has been in the employ of this board for a period of 30 years and less than 40 years may, upon the recommendation of the teachers' committee, be granted an increment of $100 annually thereafter which sum shall be over and above any salary which such teacher might otherwise receive.

b. Any teacher who has been in the employ of this board for a period of 40 years or more, and who has **not** received an increment provided for the 30 year period of service may, upon the recommendation of the teachers' committee, receive an increment of $200 annually thereafter which sum shall be over and above any salary which such teacher might otherwise receive.

c. Any teacher who has been in the employ of this board for a period of 30 years and who remains until such teacher shall have served 40 years or more and who has received an increment of $100 provided for those who have served 30 years and annually thereafter until the 40 year period is reached may, upon reaching the 40 year period of service with the board, upon the recommendation of the teachers committee, receive a **second** increment of $100 annually thereafter so long as they continue in the service of this board which increment shall be over and above any salary which such teacher would otherwise receive.

TEACHERS' SALARIES

—Barrington, R. I. The school board has eliminated the maximum salary of $1,800 formerly paid to high school teachers. The board has retained the special salary increase of $200, which is given to teachers who have completed two years of summer school work.

—Providence, R. I. The school board has adopted a resolution calling for a general increase in salaries to affect a thousand teachers. The increases become effective in September and raise the maximum of primary and grammar teachers $50 a year, and those of special teachers $100 a year.

—Kennebunkport, Me. Increases of $50 have been given to the teachers.

—Keene, N. H. The school board has given increases of $100 to the high school instructors.

—East St. Louis, Ill. The school board has given salary increases to the grade and high school teachers. The regulations provide for an average increase of from $100 to $200 a year for teachers in all classes. The schedule becomes effective in September. Elementary teachers will receive from $800 to $2,250 for one year, the latter figure being the maximum salary. The maximum initial salary for the year for elementary teachers is $1,200. Teachers of the seventh and eighth grades will receive from $1,000 to $2,250 per year; ninth grade and junior high, $1,000 to $2,850; senior high school teachers and instructors of domestic economy and manual training, $1,200 to $3,250; supervisors of music, art, penmanship, physical education, manual training and home economics, $1,200 to $3,050; supervising principals of elementary schools of 15 rooms or more, $1,700 to $4,000.

—Alliance, O. The school board has given flat increases of $50 to all teachers, and an additional increase of $25 is allowed in cases of special merit.

—Evansville, Ind. The public school teachers have signed their contracts under protest. The teachers have begun an educational campaign to acquaint the taxpayers with the salaries paid to the teaching staff and will continue their fight for increased pay.

—Framingham, Mass. The school board has increased the maximum salary of teachers $100, effective in September.

—Mexico, Mo. The salaries of elementary teachers reelected to serve another year, have been increased from $100 to $105 monthly; those who begin their third year have been increased from $105 to $110 monthly, and those in the service two years were increased from $110 or $990 for nine months, to $1,000 for the school year.

—Springfield, Ill. The school board has revised the salary schedule for high school teachers, setting the minimum at $1,675 and the maximum at $2,200. Teachers who received more than $2,050, but less than $2,200, will be increased $50 a year, until they reach the maximum of $2,200. Those who received between $1,675 and $2,050 will be increased $62.50 until they attain the maximum of $2,200.

—Dayton, O. Of the 879 teachers, principals, and supervisors in the public schools, 764 received credit last year for extension work, summer courses, or educational travel. Twenty-seven visited foreign countries. Dayton was represented during the year in 63 different institutions.

Of the 49 high school teachers employed in the schools of Alaska, 46 are graduates of the universities or colleges. Of the 83 elementary teachers, in towns, 69 are graduates of universities, colleges, or normal schools. Outside the towns, 45 of the 77 teachers are graduates of the higher institutions.

—New Bedford, Mass. The school board has been asked to approve an amendment of the rules, to dispense with teachers who marry while in the service of the schools.

—Kent, O. Under a new rule of the school board, women teachers who marry before or during the life of a contract, automatically lose their positions.

—Akron, O. Under a new rule of the board, principals of schools with enrollments of more than 1,000 pupils will receive $3,100 next year.

—Boston, Mass. By a vote of three to two, the school board will retain its former plan, under which principals of mixed elementary and intermediate schools will be chosen by the superintendent at his discretion, from the highest rating in either the men's or women's lists. A proposal had been made to merge the lists and to make compulsory the choice of the highest candidate, man or woman, on the merged list.

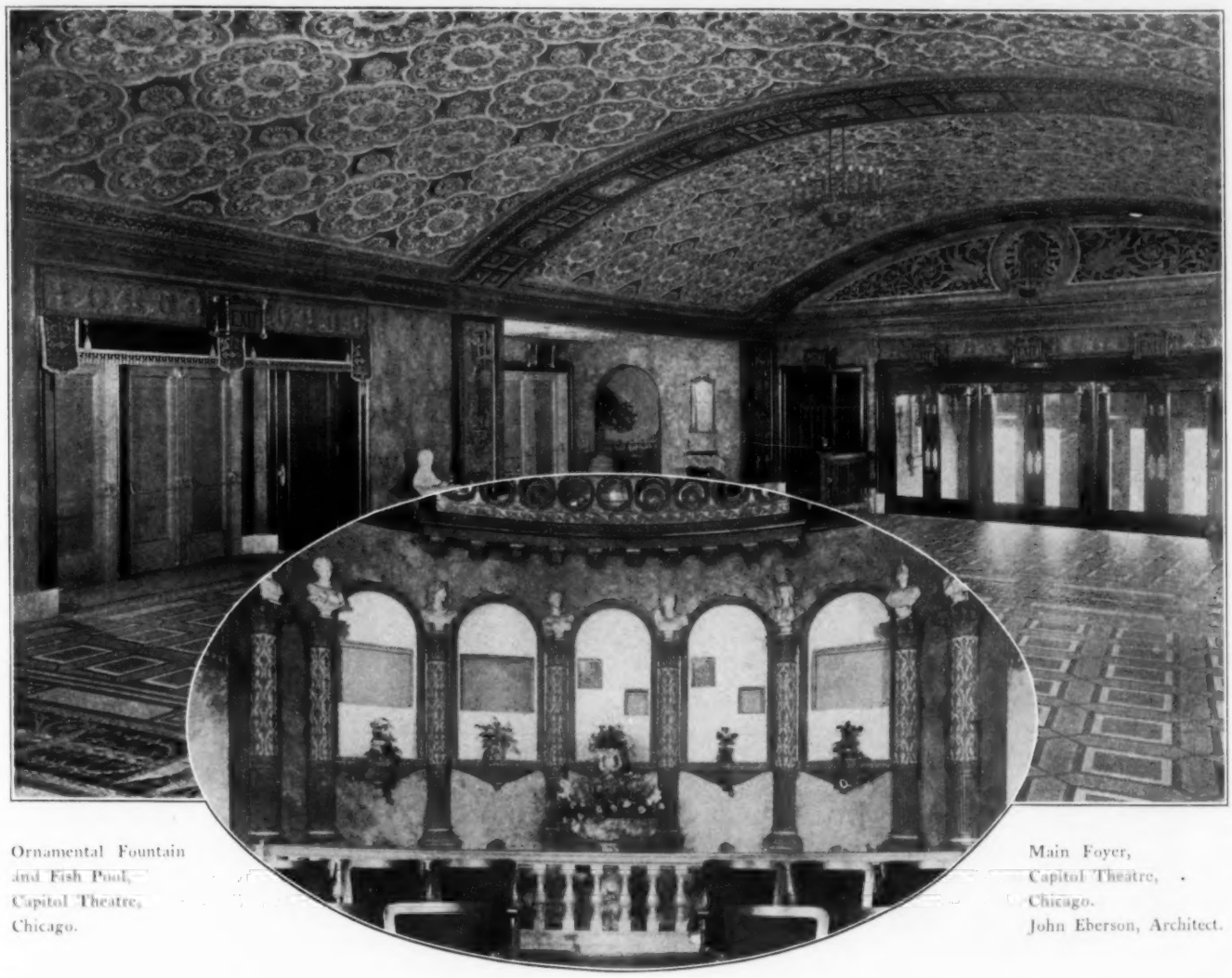
—Fall River, Mass. The local central labor union has gone on record as being opposed to married women teaching in any department of the schools. The union urged that normal graduates be given every consideration in securing positions, and that special classes be taught by other than married women.

—Easton, Pa. The school board has adopted a rule that a teacher without a college degree or equivalent, may not be advanced beyond a salary of $2,000. The rule does not apply to elementary principals.

—The salaries of school teachers of the territories of Alaska and Hawaii, paid out of territorial funds, have been held by A. W. Gregg, solicitor for the Internal Revenue Bureau, to be subject to the federal income tax.

An opinion had been requested on the question of whether salaries of school teachers in Alaska and Hawaii, which are paid out of territorial funds, are exempt from federal income tax. It

(Concluded on Page 129)



Ornamental Fountain and Fish Pool, Capitol Theatre, Chicago.

Main Foyer, Capitol Theatre, Chicago. John Eberson, Architect.

"I use HOCKADAY in all my theatres"

—JOHN EBERSON

Wherever polychrome, gold leaf, and other costly decorative treatment enters lavishly into the plans of the better class showhouse, Hockaday is usually specified as the undercoat. Between plaster and final embellishment Hockaday acts as a "coast defense." It stops limeburn, air-checking and suction, saving the delicate decorations. In this field, especially, Hockaday has established a reputation as the paint that brings down up-keep.

The following Theatres, representing the accommodations for *over half* of Chicago's Theatre goers, are Hockadayed:

Roosevelt	Ashland	Highway	Diversey	Pantheon
McVickers	Rivoli	Marquette	North Center	Covent Garden
Rialto	Oriental	Jeffery	Riviera	Crawford
State & Lake	Capitol	Ambassador	Howard	Paramount
Chicago	Tivoli	Uptown	Harding	State
Central Park				

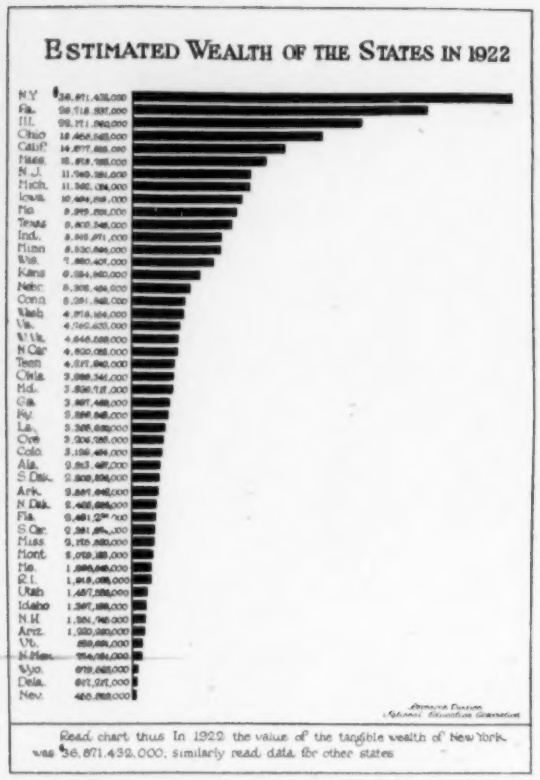
The WALLMARK of Quality

THE HOCKADAY COMPANY, 1823-1829 Carroll Ave., CHICAGO

HOCKADAY

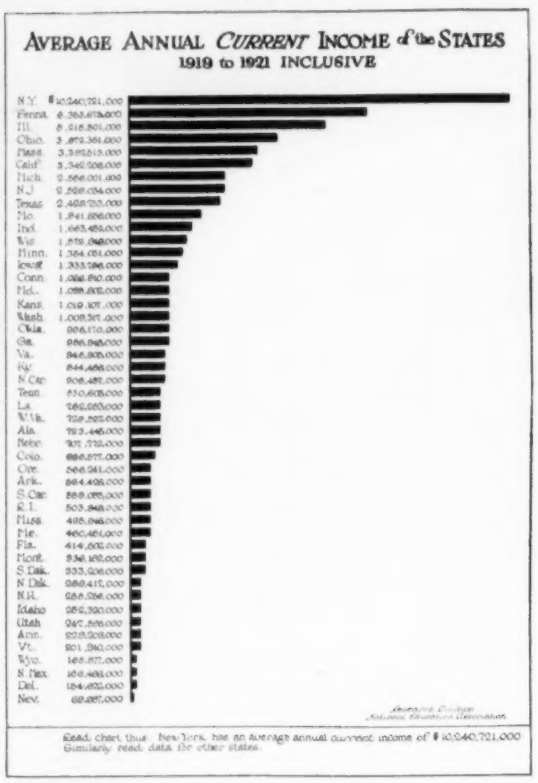
THE WASHABLE PAINT FOR ALL INTERIORS

CHART I



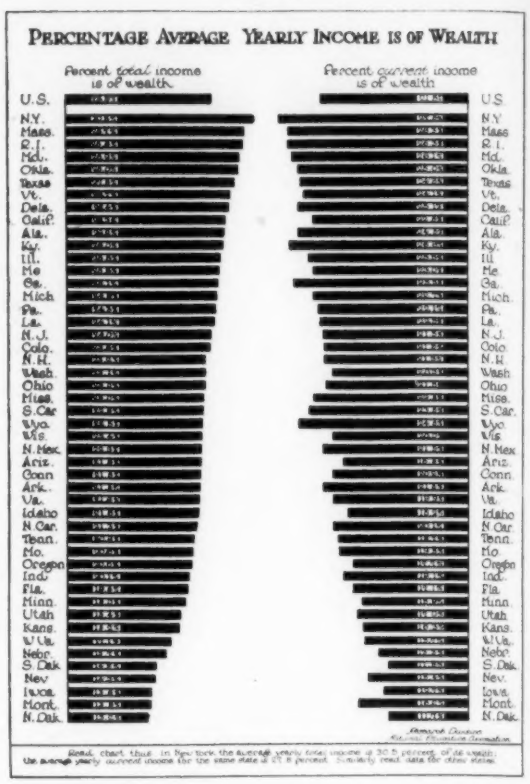
Read chart thus: In 1922 the value of the tangible wealth of New York was 36,671,432,000; similarly read data for other states.

CHART III



Read chart thus: New York has an average annual current income of $10,040,721,000 Similarly read data for other states.

CHART VI



Read chart thus: In New York the average yearly total income is 30.5 percent of its wealth; the average yearly current income for the same state is 27.6 percent. Similarly read data for other states.

ABILITY TO SUPPORT EDUCATION

The National Education Association Engages in an Important Investigation

The various studies made in recent years on the subject of school finance have led to the inevitable conclusion that, when greater support for the schools is desired, the question of the tax ability to supply that support must be definitely revealed. The educational leaders everywhere have, with a commendable zeal, pointed out the monetary requirements for the maintenance of adequate school standards.

The National Education Association now comes forward with an exhaustive study on the financial ability of the several states to support education. This study is based on the census figures for 1922, which place the total estimated wealth of the country at $310,142,785,000 (see chart 1). Here it should be noted that the reports issued this year estimate the total wealth at something near the three hundred and fifty-eight billion mark. In other words, the country's wealth in 1926 is forty-eight billions of dollars higher than it was in 1922.

It is important to know what the total wealth of the country expressed in American dollars really is. It is equally important to know what the nation's annual income is and what part of that income constitutes a surplus, namely, the addition to the aggregated wealth.

Here we learn that the average annual income (see chart III) is over seventy billion dollars. The combination of wealth and income (see chart VI) constitutes the economic power of the several states.

Educational Obligation of States

After having determined the wealth and income of the country as a whole, the investigators proceed to define the educational obligations of the several states. The number of children aged from six to thirteen, inclusive, is suggested as the measure of the size of educational task faced by a state rather than the total population. But, the study shows the percentage of the school population as against the total population. (See figure 1.)

A comparison as to the relative ability of the states to support education shows that while Nevada has $45,664 of wealth behind each school child, the state of Mississippi has only $5,777 behind each child. The average for the United States is $17,618. The relative ability of the states to support education is shown in Figure II.

The study summarizes its findings in the statement that "the states differ widely in their economic ability to support education—some states must levy taxes at rates from two to six times as high as others to provide a given amount of financial support for each child to be educated.

PUBLICITY AND PUBLIC EDUCATION

"The article on 'Publicity and Public Education,' which appeared in the May number of the SCHOOL BOARD JOURNAL is most interesting and illuminating. Reference is made to Portland, Oregon, which leaves the wrong impression. L. R. Alderman, the superintendent referred to, has not been connected with the Portland city schools for nine years."

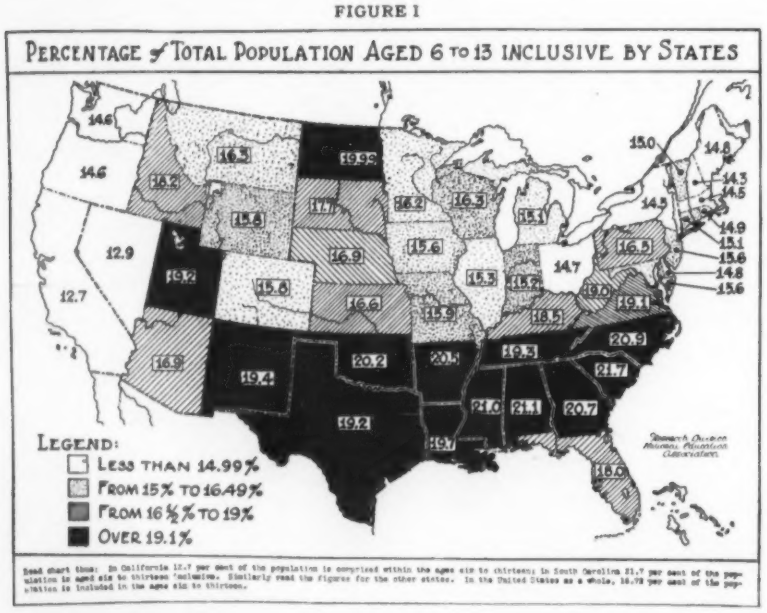
The above is quoted from a communication by William F. Woodward, the chairman of the board of school directors of Portland. Mr. Woodward then discussed the financial policies of the school system over which he presides as follows:

"Last year, prior to our annual election, the school board initiated a campaign for a special levy of $345,000 in order to grant the instruction corps of our city a long delayed increase in salaries and under what is known as the single salary schedule.

"There was a substantial majority in favor of the levy, which carried the unanimous support of the various public, civic, and fraternal organizations. The sum voted, however, did not quite serve to accomplish the schedule

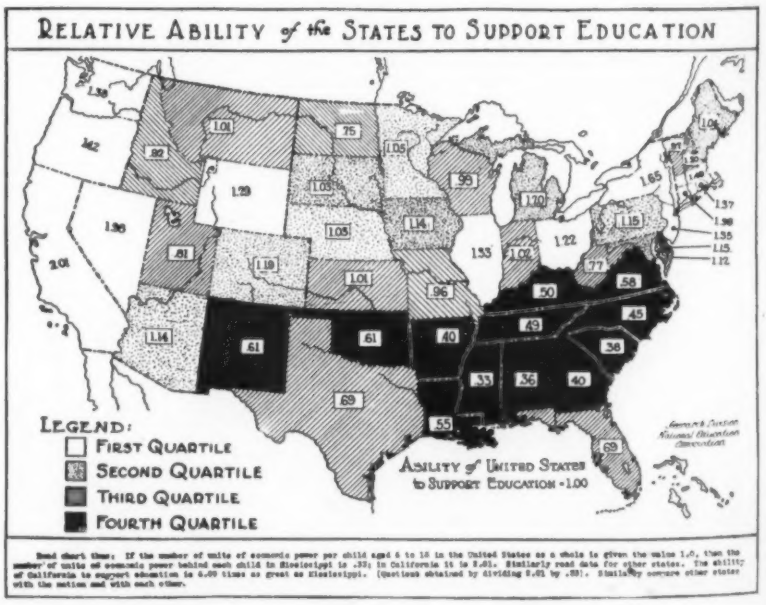
(Concluded on Page 126)

FIGURE I


PERCENTAGE of TOTAL POPULATION AGED 6 TO 13 INCLUSIVE BY STATES
LEGEND:
LESS THAN 14.99%
FROM 15% TO 16.49%
FROM 16½% TO 19%
OVER 19.1%
Research Division National Education Association

Read chart thus: In California 17.7 per cent of the population is comprised within the ages six to thirteen; in South Carolina 21.7 per cent of the population is aged six to thirteen inclusive. Similarly read the figures for the other states. In the United States as a whole, 16.72 per cent of the population is included in the ages six to thirteen.

FIGURE II



Read chart thus: If the number of units of economic power per child aged 6 to 18 in the United States as a whole is given the value 1.0, then the number of units of economic power behind each child in Mississippi is .33; in California it is 2.01. Similarly read data for other states. The ability of California to support education is 6.09 times as great as Mississippi. (Quotient obtained by dividing 2.01 by .33). Similarly compare other states with the nation and with each other.

The lustrous, satin-smooth Gloss or Semi-Gloss, washable as tile, for rooms or corridors that require maximum light and spotless cleanliness. The Flat or Semi-Gloss finish for classrooms, offices, etc.

Lasting cleanliness and better light *with this handsome, washable paint on walls and woodwork*

ALL the paint qualities that schools want are available in Barreled Sunlight. Made in three different finishes—all easily tinted—this famous product does a handsome, lasting job on any part of the school interior.

Where maximum light and sanitary cleanliness are essential, as in lavatories and kitchens—and also on woodwork throughout the school—Barreled Sunlight Gloss is an established favorite. Its light-reflecting surface is so satin-smooth it washes like tile, and so durable that *repeated washings will not wear it away*. It gives a finish as handsome as the finest enamel, yet costs less and requires fewer coats.

For places where less than the full gloss is desired, Barreled Sunlight Semi-Gloss offers an unusual combination of good looks and ease of maintenance.

And for the duller effect often preferred on walls of well-lighted rooms, nothing is more suitable than Barreled Sunlight Flat finish. This is washable, but naturally less durable under constant washing than the Gloss or Semi-Gloss finishes.

Barreled Sunlight "covers" so well and is so easy to apply with brush or spray, that it does the complete job at the *lowest cost per square foot of surface covered*.

Barreled Sunlight is sold in 55- and 30-gallon churn-equipped steel drums, and in 5- and 1-gallon cans. Where more than one coat is required, use Barreled Sunlight Undercoat first.

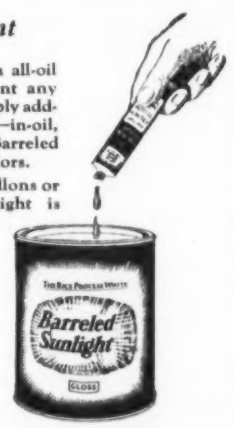
There is a local distributor of Barreled Sunlight in all principal cities.

Use the coupon to obtain further information and a sample panel painted with Barreled Sunlight.

Easy to Tint

Barreled Sunlight, an all-oil product, is easy to tint any desired shade by simply adding ordinary colors—in-oil, or by using the new Barreled Sunlight Tinting Colors.

In quantities of 5 gallons or over, Barreled Sunlight is tinted at the factory, without extra charge.



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44 Dudley Street, Providence, R. I.
New York—350 Madison Avenue
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San Francisco—156 Eddy Street
Distributors in all principal cities. Retailed by over 1000 dealers

Barreled Sunlight

Reg. U. S. Pat. Off.

U. S. GUTTA PERCHA PAINT CO.
44 Dudley Street, Providence, R. I.

Please send me descriptive literature and sample panel painted with Barreled Sunlight. I am interested in the finish checked here—

Gloss [ ] Semi-Gloss [ ] Flat [ ]

Name .....

Street .....

City ..... State .....

Lowell School, Seattle, Wash.
Sound-proofed with Cabot's Quilt.
Edgar Blair, Architect, Seattle.

Sound-Proof Schoolrooms

Civilized school-house construction now recognizes sound-deadening in floors and partitions as a necessity that is second only to light and ventilation. Quiet rooms are essential for both pupil and teacher.

Cabot's Quilt

is the standard deadener—sound-proof, sanitary and fire-resistant.

Sample of Quilt and book on Schoolhouse Deadening sent on request.

Samuel Cabot, Inc., Mfg. Chemists, Boston, Mass.

342 Madison Ave., N. Y. 24 W. Kinzie St., Chicago

GOOD JUDGMENT

When you spend the money entrusted to your care, by your taxpayers, for Blackboards, you will be confronted by a bewildering array of claims in favor of a large variety of artificial Blackboards.

You do not want to purchase anything that needs "purchasing over" or that will pledge you to further expenditures. That is why you will want to equip your School with our

Natural Slate Blackboards

They require no upkeep, while artificial Boards must be resurfaced, repaired and replaced regularly. In comparison, the word "economy" is defined in its truest sense. It is finished with a beautiful, velvety smooth surface that does not become gray with age or use; that makes writing a pleasure and reading a relief to the eyes of the students and teachers. These are but a few of the advantages. Before you spend a dollar for Blackboards, you should read our book "How to Judge, Specify and Install Blackboards." Send for it today.

PENN'A STRUCTURAL SLATE CO., INC.

WORTH BLDG. EASTON, PA.

(Concluded from Page 126)

sought for, and an additional sum approximating $65,000 will be included in the budget which we shall present at the coming election in June.

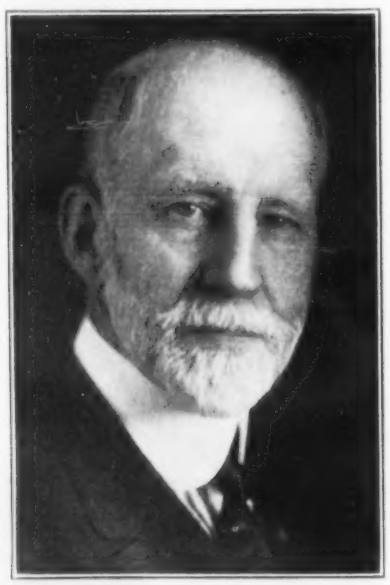
"No material increase in the salary of the teachers as indicated above has occurred for many years. As a result, however, of this step, thirteen hundred and fifty-seven applications for teaching positions in our schools were placed before our superintendent for consideration and acted upon last week. Out of this number there were vacancies for fifty-eight. The point to be noted is this, that the applications were many times greater than ever before in the history of this city; that we have had fewer resignations and the high morale of our teaching corps, it is obvious, has been impressed by this step toward justice.

"It is quite germane to note that in addition to the above, the directorate has put into effect what is known as the Cumulative Sick Leave and recommended for favorable consideration a provision for the Sabbatical Year.

"These changes accomplished and sought for can have but one effect—the attraction to our city of the best trained minds in our nation and the retention of these best minds, making for permanency and true progress.

"In every step there has been the fullest measure of publicity. The school board has kept in touch with the press and public; its meetings are rarely executive; its every transaction is given the widest degree of publicity with the result that our city is keenly awake to the value of a liberally conducted school system.

"We are about to ask the taxpayers for a special levy of a million and a quarter; are debating the wisdom of requesting authority of an additional bond issue for five million for grounds and building purposes. Are conscious that whatever the decision of the school board may be, the taxpaying voters of our city and district will listen sympathetically, weigh carefully, and decide justly."



WM. F. WOODWARD,
President Board of Education,
Portland, Ore., who retired on June 30th.

THE FIRST ESSENTIAL FOR THE PROPER VENTILATION OF SCHOOL BUILDINGS IS SPOTLESS CLEANLINESS

GETS SILVER MEDAL FOR BEAUTIFYING GROUNDS

John Grimshaw, custodian of the Administration Building of the Board of Education, has been awarded a silver medal by the Horticultural Society for the artistic manner in which he has beautified the grounds at this place. Lionel Godson, president of the society, will present the medal at the opening of the summer flower show.—Evening Telegram, Toronto, May 21, 1926.

Will we sometimes, be wise enough to attract more attention to the school janitor as an educator, by inducing some of our Rotarians, Kiwanians, Chamber of Commerce, and similar bodies to offer medals for superior results in this important work?

The school janitor affects the material side of the pupils he serves, by his faithful performance of a generally despised duty. In this he sets an example of respect for property that is more potent than any one realizes. Its influence would be increased by making pupils and teachers share the responsibility for spotlessly clean buildings.

The school janitor affects the physical side of the pupils in his charge, at least as much as any other agency, by keeping the buildings which they occupy so many hours per day in the most important periods of their lives, safe and sanitary.

The school janitor's faithful performance of his generally unappreciated duties, also affects the spiritual side of the pupils in his care, by the example he so sets.

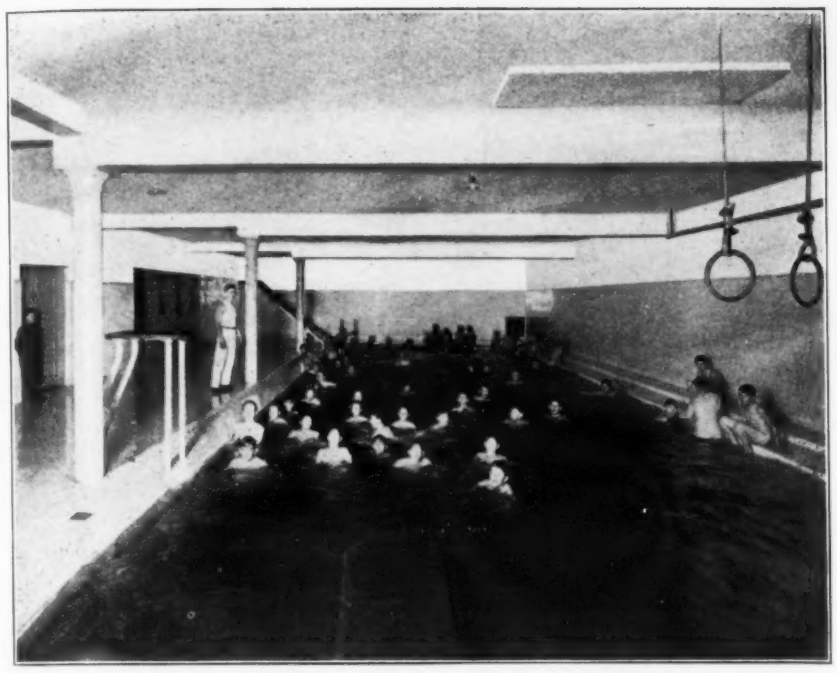
When all this is considered, doesn't it appear that the school janitor is one of the great single forces in our educational processes?

—The new school dedicated at Cranston, R. I., was named after the late Daniel D. Waterman. The speakers were Everett C. Potter, chairman of the school committee, and Emerson L. Adams, assistant state school commissioner.

—A new intermediate school, the Allen C. Mason, at Tacoma, Wash., was dedicated with a program of music and oratory. W. C. Wheeler, a member of the school board, presided introducing the following guests. Mrs. Victor H. Miller, president of the school board; Mrs. Herman Watson, school director; William F. Geiger, superintendent of schools; Alfred Lister, secretary of the board. The response to the dedicatory address was made by Principal E. H. Butler.

—The new addition to the Franklin School at Dayton, Ohio, was opened with dedicatory speeches by William F. Kramer, president of the school board, and Paul C. Stetson, superintendent.

This is Worth Knowing
When Making Painting Plans



It is a waste of money to use an ordinary paint on the inside of swimming pools. To give good service, under such severe exposure, a paint must be unusually resistant to water and must be extremely durable.

Cementkote is just such a product. It gives excellent results in both indoor and outdoor pools containing either fresh or salt water.

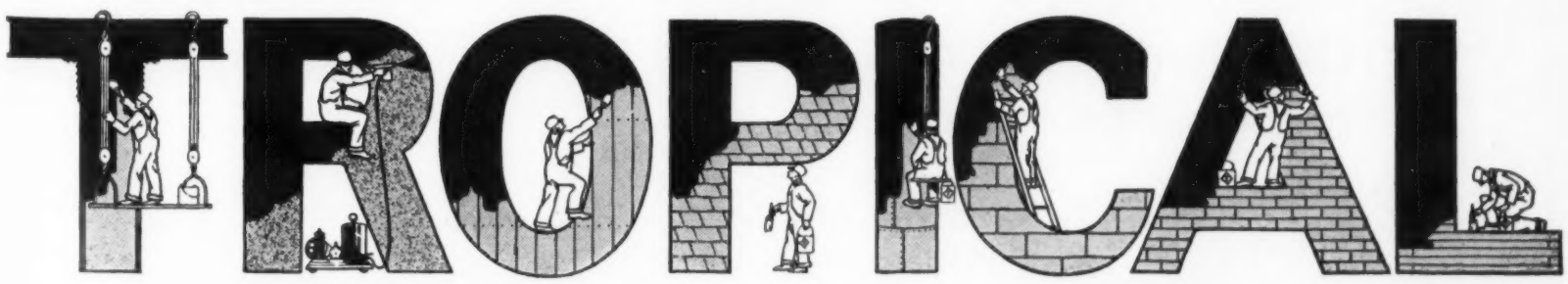
ALL of the surfaces listed on the coupon below require special treatment in order to get the best results. The money spent for paint does not do its allotted task unless it is used to buy the most suitable coatings for the surfaces to be protected.

Ordinary paints and enamels will not withstand the stress of unusual exposure nearly as well as paints which are designed to combat just such conditions. For instance, in a shower bath the walls, ceilings and floors are constantly splashed with hot and cold water and are also exposed to steam. This is a severe set of conditions for a paint or enamel to resist, yet our Toconamel and Floorkote are doing just this in many schools, colleges and Y. M. C. A.'s throughout the country.

Just so with other special coatings which we manufacture. Each one is made to withstand some particular condition and, if you have that condition to contend with, you will receive better service from one of our Tropical Special Coatings than from paints and enamels which are not made to resist such exposure.

Why not use the coupon to send for information as to the best way to protect the surfaces that you have to paint this Summer? This will not obligate you and you will receive some information of value.

The Tropical Paint & Oil Co., 1228-1270 W. 70th St., Cleveland, Ohio



THESE SURFACES NEED EXTRA PROTECTION

Check the surfaces that you expect to paint this Summer, return the coupon and we will tell you the best way to do it and give quotations on the Tropical Products required. We sell direct to Public and Private Schools, Colleges and Universities.

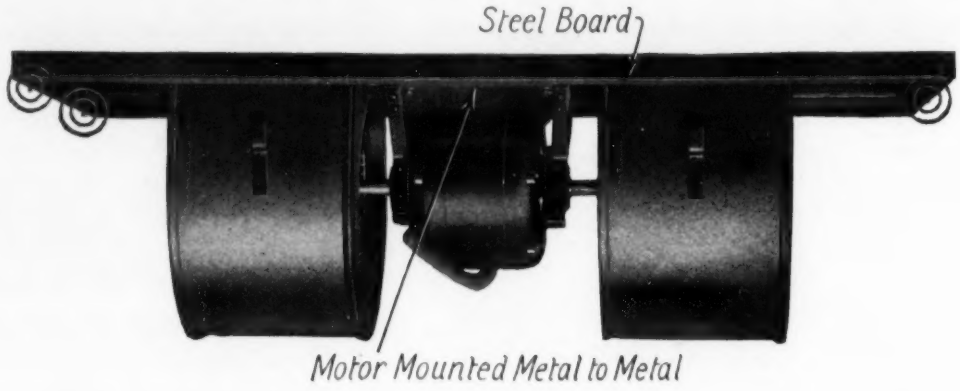
- ☐ Swimming Pools
- ☐ Shower Baths
- ☐ Wash Rooms
- ☐ Domestic Science Class Rooms
- ☐ Roofs
- ☐ Cafeterias
- ☐ Kitchens
- ☐ Laboratories
- ☐ Boiler Settings
- ☐ Boiler Fronts
- ☐ Steam Pipes

The Tropical Paint & Oil Co.,
1228-1270 West 70th St., Cleveland, Ohio

We are expecting to paint the surfaces checked on this coupon. Please send us, without obligation, your recommendations on the best way to protect and decorate these surfaces. Also, we'd like prices on the Tropical Products needed for the work.

School . . . . .
Signed by . . . . .
Title . . . . .
City . . . . .
State 7-26

Universal Heating & Ventilating Unit



Quiet-Operating Single-Phase Alternating Current Motors Are Now Available in the *Universal Heating & Ventilating Unit*

As a result of the development of a quiet-operating single-phase motor in combination with the three-point lead mounting feature of the *Universal* Heating and Ventilating Unit we can now supply quiet-operating motors wound for any character of current. The use of a motor-generator set is no longer necessary.

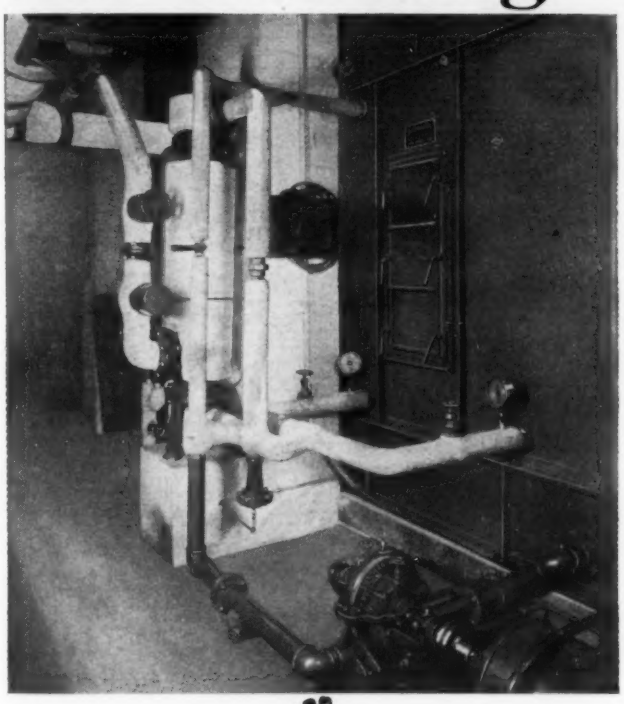
This big step forward is fully described in our new publication No. 207, which will be furnished direct or through the nearest American Blower office.

John J. Nesbitt, Inc.

213 N. Vermont Ave.
ATLANTIC CITY, NEW JERSEY

405 Lexington Ave.
New York City

Make heating equipment part of the building - permanent - unseen



When you erect a fine, modern school building, be sure that the heating equipment is the best obtainable. Put in a central fan and heater, with an air washer that will purify the air and control the humidity, an out-of-sight, permanent, simple and efficient system that will last as long as the building.

Buffalo fans and heaters with Carrier Air Washers are used in hundreds of America's finest schools. The central control puts regulation of heat and humidity up to one person, and at the same time enables that operator to provide various degrees of warmth in various rooms as required.

The equipment is long-lived, efficient and simple; noiseless, and, over a period of years, least expensive.

Why not get full particulars NOW?

Buffalo Forge Company
Carrier Air Conditioning Co. of America
186 Mortimer St., Buffalo, N. Y.
In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

"Buffalo" — Carrier heating—ventilating

(Concluded from Page 122)

was contended that the compensation of these teachers is taxed not directly by the various revenue acts, but by reason of the construction placed upon them, and that such teachers occupy the same status as teachers employed by the various states of the Union.

—Neosho, Mo. The school board has inaugurated a special form of teacher training while in service for the benefit of elementary teachers. There will be special teachers for the regular work with organized classes of teachers for weekly instruction.

Special courses of study will be organized by assignment of teachers to special parts of the work. The courses will be prepared during the coming year.

—The school board of Yakima, Wash., has begun the preparation of a salary schedule which will have the effect of retaining for a longer period the efficient teachers on the staff. A plan has been considered for increasing the yearly salary of each teacher in the system for two years or more, on the basis of $25 annually for each year served up to four years.

—North Adams, Mass. The school board has adopted a new schedule for teachers, providing higher maximum salaries and quicker attainment of the maximum, together with special compensation for service of more than twenty to 25 years, and additional increments for teachers taking summer courses.

Under the new schedule, the pay for the first year for a teacher, without experience, will be $1,000, increasing to $1,100, the second year, and $50 thereafter, until the seventh year, when the new maximum of $1,400 is reached.

In addition, it is provided that for each five years of service after 25 years, an additional increment of $50 will be given until $1,550 is reached. In other words, a teacher at the end of 26 years' service, who has been receiving $1,400 will be raised to $1,450, and a like amount each five years, until after 36 years, the pay will stop at $1,550.

It is also provided that an increment of $50 shall be given not oftener than once in two years, and not exceeding a total of $150, to any grade teacher for professional improvement courses equivalent to one-fourth of a college year's work in quantity and quality, but in no case may the salary thus attained exceed $1,500. Teachers drawing the maximum for service under 25 years of $1,400 may add only $100 to their wages for summer school work.

—For the first time in the history of the New York City board of education, provision has been made in the school budget for paying the claims of teachers injured in the course of their work.

In the future, claims by teachers for injuries will be much simpler. Where a teacher has been injured in a school building in the performance of duty, such teacher must notify the principal in writing, stating the circumstances, names of witnesses and their statements. She must include in such statement an allegation that she in no way, was guilty of any contributory negligence. When she is ready to return to duty, the teacher must submit to the principal a statement of expenses, including doctor's fees, medicine, etc., with vouchers or receipts for these. The principal must submit the statement, with vouchers, to the district superintendent, or directly to the division superintendent.

The board of superintendents appoints a subcommittee to investigate each claim presented, and upon the report of the committee, the recommendations go to the board of education.

Where the board of education approves the report of the board of superintendents, recommending the payment of a claim, the auditor is authorized to certify the payment of the claim out of the specific item in the budget without any further action.

—Newport News, Va. A salary schedule has been adopted by the board of education, based on a ten month term, and salary payments in twelve monthly installments. The scale calls for a $2,200 salary for principals of elementary schools in sixteen room buildings and high schools whose enrollment is under 600 pupils, for teachers holding a bachelor's degree. The holder of a master's degree gets $200 more. The annual increase will be $600. The scale rates teachers in accordance with their training, experience, classroom effectiveness and professional progress. The classification is determined by the superintendent subject to approval of the board.

REGULATIONS GOVERNING THE APPOINTMENT OF NEW TEACHERS

—Denver, Colo. The administrative department has adopted a policy outlining the educational qualifications which must be met by new teachers applying for teaching positions in the schools. The minimum qualifications are:

1. For elementary schools, normal graduation or its equivalent.

2. For high schools, college or university graduation, or its equivalent. College graduates must present evidence of training equal to one-fourth of their total credits in that group of subjects specially designed for teachers.

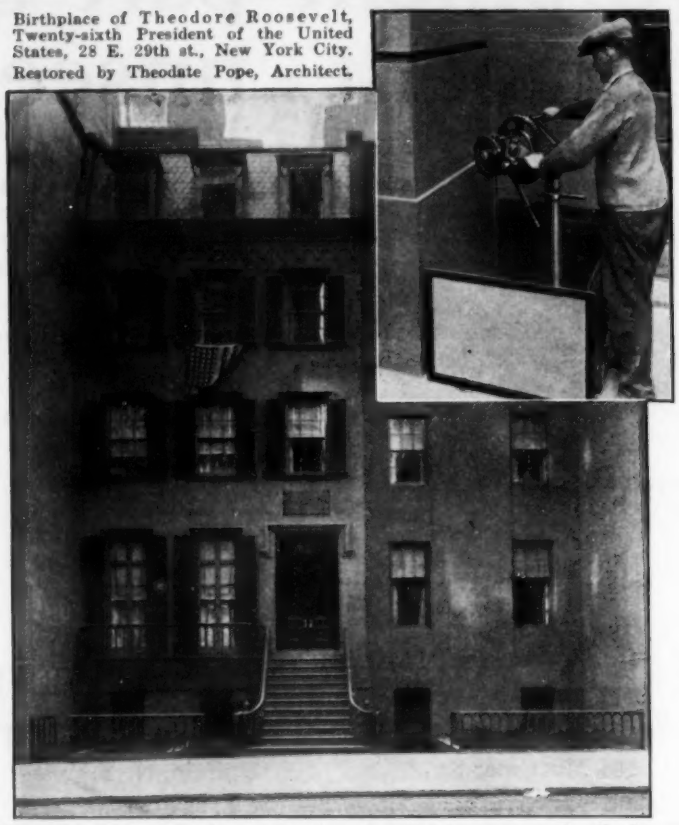
For administering the rules governing the quality of training, the approved or standard colleges, universities, and normal schools of the north central region will consist of those colleges, universities, and normal schools on the accredited list of the North Central Association of Colleges and Secondary Schools.

Applicants who meet the standard may make a personal application before the examining board. The board consists of five members of the administrative staff, which interviews applicants on specified dates during the spring months. In the interview the examiner is free to ask any question relevant to the applicant's fitness for a teaching position, special preparation, progressiveness, interest in general school and community life.

References are required from persons who have knowledge of the applicant's training, experience, and general fitness for teaching. Later the board meets and considers all the data obtained from interview and references.

On the basis of preparation, personality, and experience, the names of some of the applicants are placed on an eligible list. As a vacancy occurs the applicant on the list who seems to best meet a particular need is offered an appointment.

When a teacher is appointed to a position, he serves for a three-year probationary period. At the end of this period, he may be dropped for inefficiency or other good excuse, or he may be reelected for the fourth time on permanent tenure. He then serves without further annual election, subject only to dismissal for real cause.



Birthplace of Theodore Roosevelt, Twenty-sixth President of the United States, 28 E. 29th st., New York City. Restored by Theodate Pope, Architect.

G&G Ash Removal Equipment has been installed in many nationally known buildings of prominence such as: The National Capitol and U. S. Chamber of Commerce Building, Washington, D. C.; Independence Hall and Zoological Gardens, Philadelphia; American Academy of Arts and Letters and Mecca Temple, New York City; Detroit Public Library; Crerar Library, Chicago; Elks' National Home, Bedford City, Va.

the G&G
REG. U. S. PAT. OFF.
Telescopic Hoist
with Automatic Gear Shifting Brake Device and Silencer

At the Birthplace of Theodore Roosevelt

THE ROOSEVELT MEMORIAL ASSOCIATION spared no effort or expense in faithfully restoring this old building to its original state. Fortunately it has been possible to collect much of the original furniture and fittings, and many of the articles personally used by Theodore Roosevelt have been placed on display.

The problem of ash removal, however, was met by providing the most efficient method available today. A G&G Model A Telescopic Hoist with complete equipment was installed. The G&G Sidewalk Doors were especially fitted with blue stone to conform with the exterior appearance of the building.

GILLIS & GEOGHEGAN
551 West Broadway, New York City

TEACHERS AND ADMINISTRATION

A CODE OF ETHICS FOR TEACHERS

The Kentucky Education Association at its annual meeting in April, 1926, adopted a very interesting Code of Ethics as a guide for the teachers in their relations with the community, with the school administration, and with their fellow teachers. The code is interesting insofar as it represents not only a study of the situation in the state but also a study of some twenty similar codes adopted by teachers in other states.

The work of preparing the Code was carried on by a committee headed by Mr. J. T. Miracle, superintendent of city schools at Catlettsburg, Kentucky. The sections of the code which will perhaps most directly affect the relations of the teachers to school boards and superintendents, are as follows:

II. Obligations of Teachers Toward the School Administration

1. To hold all contracts sacred. No contract to be cancelled except by mutual consent of both contracting parties.

2. To be at all times loyal to the school system. To present all criticism, both constructive and destructive, to the councils of the local professional group only.

3. To seek a position or recommend another teacher for a position only after such position has been declared vacant.

IV. Obligations of the Administration to Teachers

1. Promote the professional growth of teachers.

2. To assist worthy teachers in securing advanced professional placement.

3. Courtesy demands that prompt replies be given by the Superintendent to all applications and inquiries concerning vacancies, when a self-addressed stamped envelope is enclosed.

4. In fairness to teachers all reappointments should be made at least six weeks before the close of the school.

5. To endeavor conscientiously to prevent the failure of any teacher who might succeed if wisely and sympathetically advised.

V. Obligations of Administrators to Each Other

1. It is most unprofessional and unethical for a school superintendent or principal to issue a testimonal to a teacher ascribing qualifications which she does not possess. In giving verbal or written estimates of a teacher's qualifications for a position, schoolmen should be absolutely frank with one another and act without any mental reservation whatsoever.

2. It is unprofessional for a superintendent or principal to employ or present the name of a teacher for employment who is known to be under contract for another position. Teachers should be properly released by the proper authorities first.

3. To hold in strict confidence all confidential information.

4. To refrain from seeking a position until the position is declared vacant.

5. To refrain from underbidding or in any way jeopardizing another's position or growth.

SHELBYVILLE SALARY SCHEDULE

—The schedule of teachers' salaries for Shelbyville, Ind., has been revised for 1926-1927.

The semester hours of training required for listing a teacher range from thirty to 150 hours, and the service increases amount to $45 per annuum. The period of eight years covered by the schedule enables the board to finance the schedule, as old teachers at high levels drop out at the same rate as new ones are added at the lower levels. Five semester hours represents the minimum amount a teacher can earn in summer school, and all teachers are encouraged to take training by offering suitable rewards for small units of work.

The schedule is divided into four groups. Teachers in Group one, with thirty hours' training and no experience, begin at $900, and advance at the rate of $45 per annum, up to a maximum of $1,260 at the end of eight years; teachers with 35 hours of training and no experience, begin at $930, and advance at the rate of $45 per annum, up to a maximum of $1,290; teachers with forty hours of training and no experience, begin at $960, and advance at the rate of $45 per annum, up to a maximum of $1,320 at the end of eight years; teachers with 45 hours of training and no experience, begin at $990, and advance at the rate of $45 per annum, up to a maximum of $1,350 at the end of eight years; teachers with 50 hours of training and no experience, begin at $1,020, and advance at the rate of $45 per annum, up to a maximum of $1,380 at the end of eight years; teachers with 55 hours of training, begin at $1,095, and advance at the rate of $45 per annum, up to a maximum of $1,410.

Teachers in Group Two, with sixty hours of training and no experience, begin at $1,230, and advance at the rate of $45 per annum, up to the maximum of $1,440 at the end of eight years; teachers with 65 hours of training and no experience, begin at $1,110, and advance at the rate of $45 per annum, up to the maximum of $1,470 at the end of eight years; teachers with 70 hours of training and no experience, begin at $1,140, and advance at the rate of $45 per annum, up to the maximum of $1,500 at the end of eight years; teachers with 75 hours of training and no experience, begin at $1,170, and advance at the rate of $45 per annum, up to the maximum of $1,530 at the end of eight years; teachers with 80 hours of training and no experience, begin at $1,200, and advance at the rate of $45 per annum, up to the maximum of $1,560; teachers with 85 hours of training and no experience, begin at $1,230, and advance at the rate of $45 per annum, up to a maximum of $1,590.

Teachers in Group Three, with 90 hours of training and no experience, begin at $1,260, and advance at the rate of $45 per annum, up to a maximum of $1,620 at the end of eight years; teachers with 95 hours of training and no experience, begin at $1,290, and advance at the rate of $45 per annum, up to a maximum of $1,650 at the end of eight years; teachers with 100 hours of training and no experience, begin at $1,320, and advance at the rate of $45 per annum, up to a maximum of $1,680 at the end of eight years; teachers with 105 hours of training and no experience, begin at $1,350, and advance at the rate of $45 per annum, up to a maximum of $1,710 at the end of eight years; teachers with 110 hours of training and no

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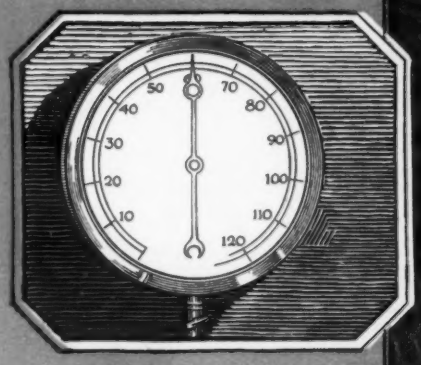
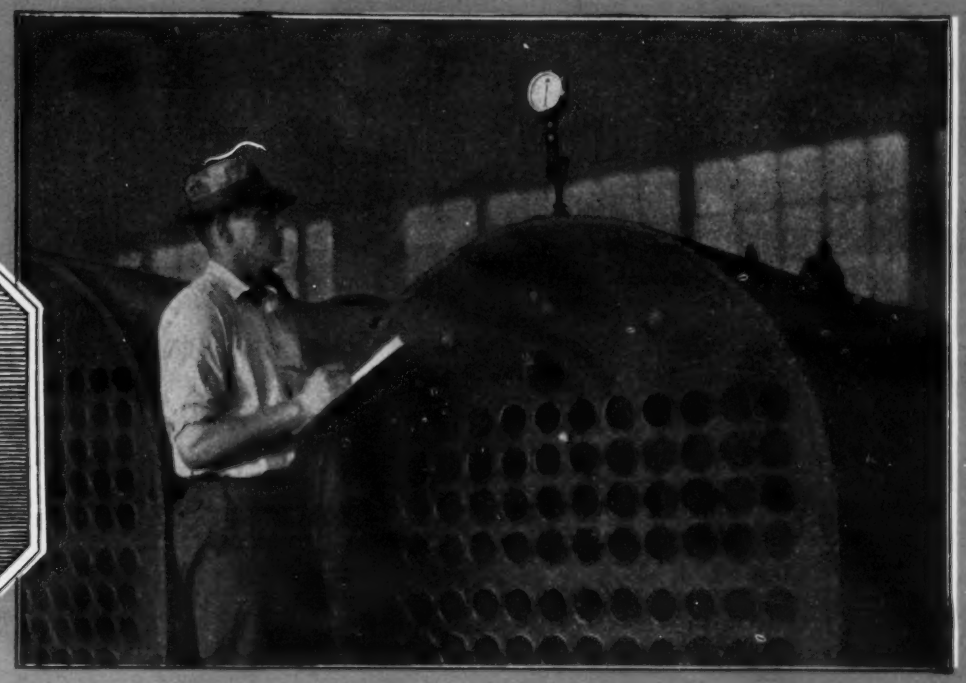
HEGGIE-SIMPLEX

[FORMERLY SIMPLEX]

ELECTRIC-WELDED STEEL BOILERS



Although working pressures never exceed 15 pounds, all Heggie-Simplex Boilers are tested at 60 pounds.



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The Heggie-Simplex Boiler combines in one portable, electric-welded steel unit all the recognized advantages of both firebox and return tubular, double pass boilers. It has four distinctive features of fundamental importance:

1. Extra large firebox and direct heating surface.
2. Secondary combustion chamber to provide ample room for complete combustion before entering flues.
3. "Rear-front-rear" passage for the gases.
4. A single, unimpeded, freely circulating body of water.

Made in both smokeless and direct draft types and in a complete range of sizes for bungalows, residences and all larger installations.

HEGGIE-SIMPLEX Heating Boilers are built to comply strictly with the A. S. M. E. code; but at various points Heggie-Simplex standards are higher.

The code permits the use of 1/4 in. plate in portions of small size low pressure boilers. The lighter plates in even the smallest Heggie-Simplex are 5/16 in. thick—and at practically every point all sizes are made of heavier steel than is required. Every piece of plate is *firebox* steel—because *firebox* is the only quality the mills will guarantee to comply with A. S. M. E. standards.

To code requirements governing welding, Heggie-Simplex has added standards limiting the rate to that at which perfect fusion is assured. The footage of weld per hour is only one-fourth that produced in some shops. But when put to hydrostatic test, Heggie-Simplex Boilers show neither leak nor defect.

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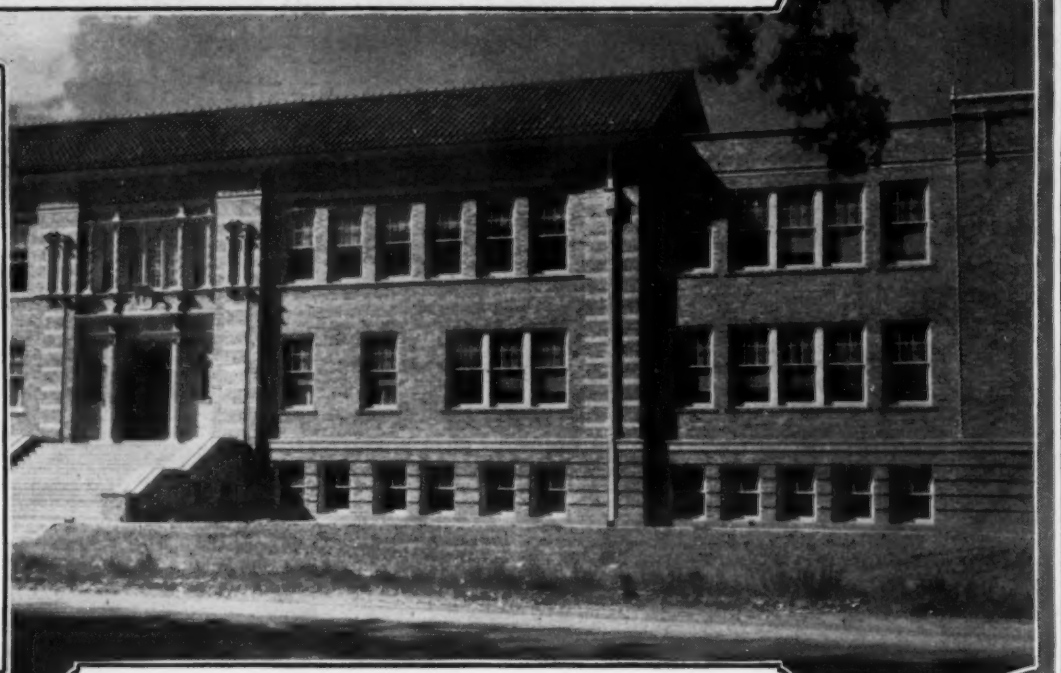


A DUNHAM-EQUIPPED HIGH SCHOOL
Canon City High School, Canon City, Colo.
Architect: Eugene G. Groves, Denver.
Heating Contractor: City Plumbing & Heating Co., Boulder, Colo.

(Concluded from Page 130)

experience, begin at $1,380, and advance at the rate of $45, up to a maximum of $1,740 at the end of eight years; teachers with 115 hours of training and no experience, begin at $1,410, and advance at the rate of $45 per annum, up to a maximum of $1,770 at the end of eight years.

Teachers in Group Four, with 120 hours of training and no experience, begin at $1,440, and advance at the rate of $45 per annum, up to the maximum of $1,800 at the end of eight years; teachers with 125 hours of training and no experience, begin at $1,470, and advance at the rate of $45 per annum, up to a maximum of $1,830; teachers 130 hours of training and no experience, begin at $1,500, and advance at the rate of $45 per annum, up to maximum of $1,860 at the end of eight years; teachers with 135 hours of training and no experience, begin at $1,530, and advance at the rate of $45 per annum, up to a maximum of $1,890; teachers with 140 hours of training and no experience, begin at $1,560, and advance at the rate of $45 per annum, up to a maximum of $1,920; teachers with 145 hours of training and no experience, begin at $1,590, and advance at the rate of $45 per annum, up to a maximum of $1,950; teachers with 150 hours of training and no experience, begin at $1,620, and advance at the rate of $45 per annum, up to a maximum of $1,980 at the end of eight years.

—Cliffside Park, N. J. On May 18th the school board adopted a new schedule of maximum salaries and a schedule of annual increments. These are as follows:

Kindergarten, minimum, $1,200, present maximum $1,800, and new maximum $2,200; grades one to six, minimum $1,200, present maximum $1,800 and new maximum $2,200; grades seven to eight, minimum, $1,400, present maximum $2,000, and new maximum $2,400; grades nine to twelve, minimum, $1,600, present maximum $2,400, and new maximum $2,800; elementary principal, minimum, $1,500, present maximum, $2,500, and new maximum, $3,000; high school principal, minimum, $2,400, present maximum, $3,300, and new maximum, $4,000.

The annual increments under the new schedule are:

Minimum, present and new increment, $50; normal, present, $75, and new, $100; superior, present, $100, and new $125; unusual service, new increment, $150.

The maximum salaries become effective immediately but the schedule of increments do not become effective until July, 1927.

TEACHERS AND ADMINISTRATION

—That the principal and superintendent must stand by the teacher in an emergency is the contention made by the Lewiston, Me., Sun. The paper, in discussing a charge against a teacher, says: "If, as claimed in the present case, a mother bullied the teacher, or tried to, that mother should be made to understand that that teacher's principal and superintendent are on the teacher's side, from the start. That that teacher cannot be dropped unless principal and superintendent are dropped at the same time. Bullying parents should discover right off quick that bullying don't cut no ice."

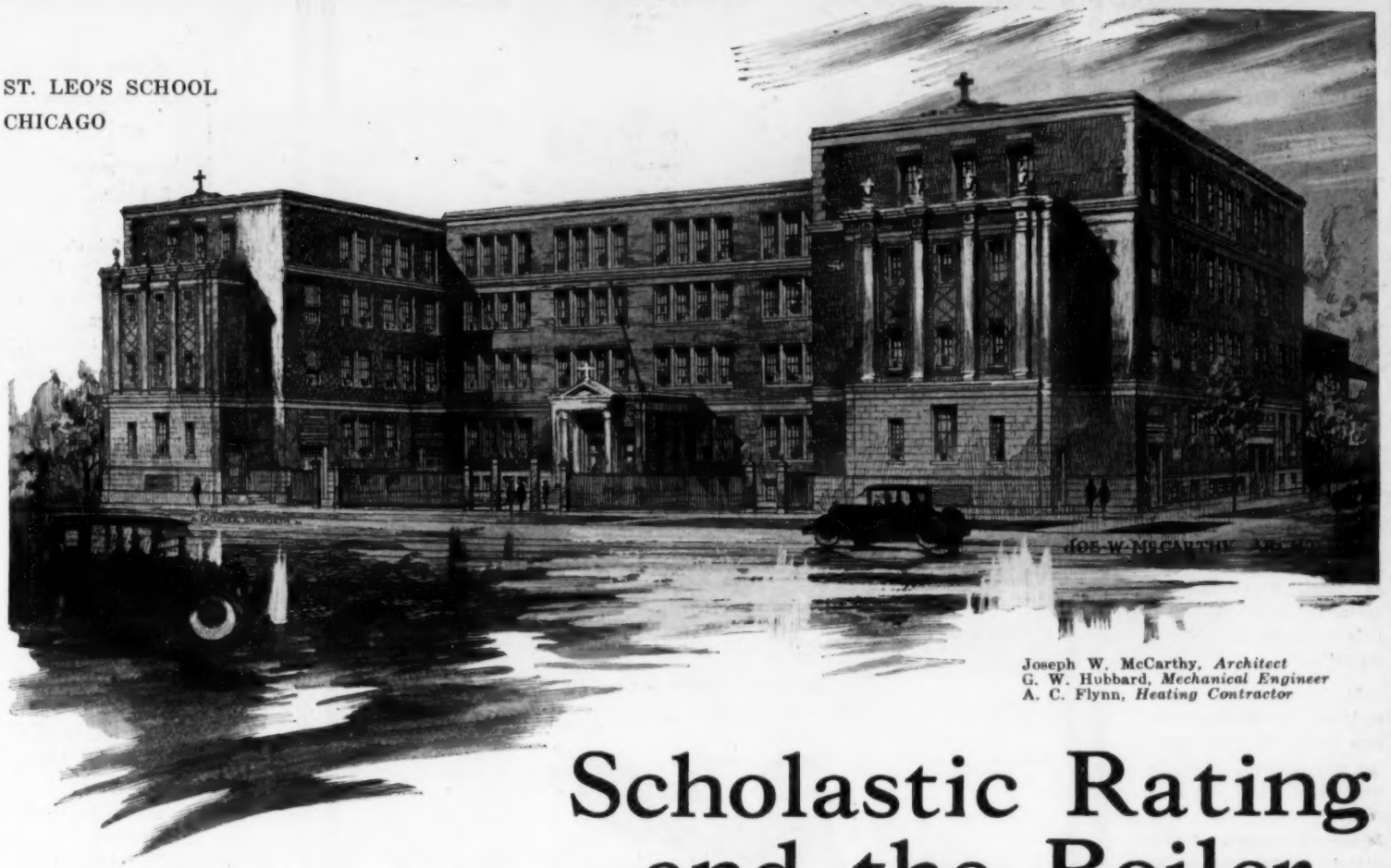
The citizens' committee on teachers' salaries of New York City has inaugurated a scientific study of teachers' salaries. A "voluntary confidential inquiry blank" has been sent to each of the 30,000 teachers now in the employ of the school system. This inquiry blank asks for the sex of the teacher, whether married or not, the number of dependents, the annual rental, whether part of the apartment is sublet, the monthly expense for meals and the expense of summer school attendance. At the bottom of the blank is a detachable slip on which the teacher's name is to be signed. This will be detached by the teacher and put in a separate sealed envelope.

"If teachers' councils do nothing more than to bring about a friendly cooperative relation between school boards and teachers, they are worthy of encouragement," says a recent bulletin of the United States Bureau of Education. "In too many instances there has been this lack of cooperation, from the fact that the teachers have been considered mere cogs in a great machine. This has been especially true in the larger cities, where school machinery is complicated and where there is no contact between the teaching staff and administrative authorities. If a superintendent or a school board consults a few teachers selected at random, difficulties are apt to arise, and the whole administrative machinery may get out of gear. It is difficult for the school board to know what teachers to consult. The only democratic way is to consult them all."

—When Mrs. L. A. Anderson, president of the Washington Education Association, defended married women teachers, Mrs. J. L. Bright of Everett, responded by saying: "If a woman is determined to devote her life and energy to a teaching career, why in the world does she marry and undertake the greater responsibilities of a home and family and imagine she can do both when invariably she does justice to neither? We grant the training a woman gets in the average home with the average husband may be good training for the schoolroom. But when a woman marries, it usually is for a home and the social position and happiness which goes with it. Why doesn't she stay there? That should fill her world if it is done and done properly. No one objects to the woman in business or the married woman with no other means of support in the school, but why should a woman with a husband earning a comfortable salary be so selfish that she must keep others from work, girls who should rightfully have it for self support and who can make it their sole work and interest."

—In directing a survey in New York City, on teachers' salaries, questionnaires were sent to 18,000 teachers. The question as to how many dependents a teacher had to support was inserted. This question was misunderstood and Dr. J. R. McGaughy of Teachers College, Columbia University, who has charge of the survey has made the following explanation: "The reason for asking each teacher to report the number of persons who are chiefly dependent upon her salary has been misunderstood by some. The question asked does not imply that two teachers with exactly the same qualifications who are filling identical teaching positions should be paid different salaries if one of these teachers has more dependents than the other. The committee does believe, however, that the salary of each teaching group should be high enough in order that those who have dependents may meet the reasonable requirements society places upon them, and yet live at the cultural level in keeping with the teacher's social position."

—Eldon, Mo. All the teachers, with one exception will be in attendance at summer schools this year for professional study.



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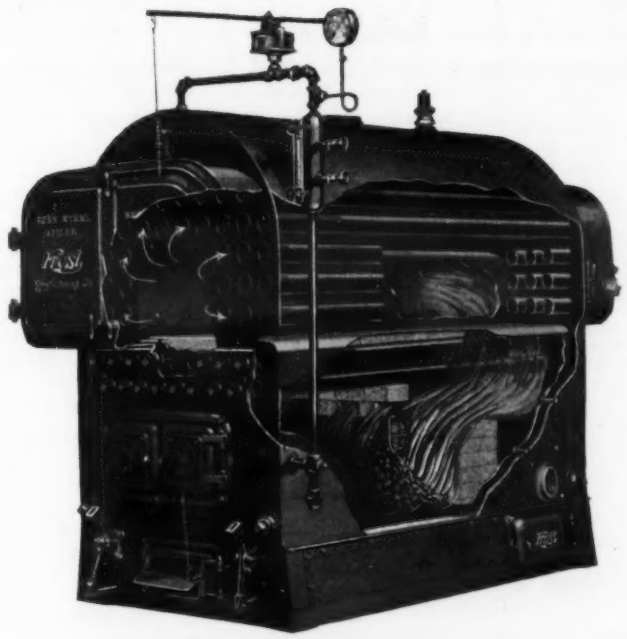

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Alvernia High School, Chicago, Ill.
High School, Fort Dodge, Iowa.
Arsenal Technical High School, Indianapolis, Ind.
Westport High School, Kansas City, Kans.
Ludlow School, Ludlow, Ky.
Taft School, Billings, Mont.
Bennett High School, Buffalo, N. Y.
High Street School, West Chester, Pa.
Navarre School, Toledo, Ohio.

NEWS OF SCHOOL OFFICIALS

—The retirement of A. C. Best as a member of the board of education of Princeton, Ill., comes after a service of 34 years. Mr. Best had declined a reelection to the office.

—Mr. William F. Woodward, chairman of the schooi board at Portland, Ore., retired on June 30th, after the completion of six years of service. Mr. Woodward, with his wife, left immediately on an extended motor trip along the northern tier of states eastward as far as Nova Scotia, then following the Atlantic seaboard to the southern states, returning to Portland in 1927.

Mr. Woodward will use the trip as an opportunity to study school conditions in the various states through which he passes, with the idea of gaining a wider knowledge and experience which may prove helpful in later years.

—Mr. G. P. Ellis has been appointed assistant superintendent of school buildings to succeed Mr. W. H. Harrold. Mr. Ellis will be responsible for the supervision and upkeep of the school buildings, for the design of the domestic engineering in new buildings, and for the checking of structural safety, and will receive a salary of $5,500 per year.

Mr. C. B. Allison, formerly chief draughtsman and supervisor of building construction for the school board, has been appointed assistant to the superintendent of buildings. Mr. Allison will take charge of the board's architectural department, and will, in addition, have general supervision over the erection of new buildings and the direction of all repair contracts. He will receive a salary of $5,000 per year.

—Mamaroneck, N. Y. At the annual school meeting held on May 4th, Mr. Joseph F. Gleason was elected president, and Mr. Henry Siemer was reelected a member of the board for a term of three years.

—Mr. J. M. Broughton has been appointed a member of the school board of Raleigh Township, Raleigh, N. C.

—Mr. H. F. Farrington has been elected president of the board of education of Watertown, N. Y., to succeed H. B. Johnson. Mr. Farrington has been a member of the board for two years and has acted as chairman of the finance committee.

—Thomas J. Kenny, a former school board member of Boston, Mass., died at his home at the age of 59. Mr. Kenny was elected a member of the board in 1898 and was reelected to office in 1901. The school board adopted a memorial at its regular meeting.

—Mr. J. A. Wagner, secretary of the board of Ottumwa, Ia., has been granted a leave of absence for one year, beginning with July.

—Mr. John W. Graham, of Dayton, O., has been appointed business manager for the board of education, at a salary of $6,000.

—Mr. Thomas J. McGovern, clerk of supplies for the board of education at Bridgeport, Conn., died after a brief illness of pneumonia.

—Dr. Stonewall Anderson has been reelected as secretary of the board of education at Memphis, Tenn.

—Mr. Henry Cunning has been elected superintendent of buildings and grounds for the board of education of Terre Haute, Ind. Mr. Fred Piepenbrink has been reelected as business agent.

—Mrs. A. G. Ogren has been elected secretary of the school board at Rockford, Ill., to succeed Mrs. Clara Savage.

—Edward B. Ellicott has been reelected as president of the board of education at Chicago, Ill.

—Mrs. Agnes D. Wauters, formerly vice-president of the Bayonne, N. J., school board, has been elected president of that body.

THE BEARDSTOWN SUPERINTENDENCY ELECTION

The reelection of James J. Hagan as superintendent of the Beardstown, Ill., schools was attended with an interesting contest. Some weeks previous to the May meeting the board members held a caucus to decide whether Mr. Hagan should be retained. By a vote of 4 to 2 it was agreed to drop him. At the same time, it was decided that the caucus agreement would mean unanimous action at the board meeting.

When Mr. Hagan was informed of the result, he announced his retirement. The board then received 168 applications for the position. By a process of elimination, the list was narrowed down to ten men. Six of these were invited to appear before the board for personal conference. Four responded. No agreement, however, as to a final choice was reached. Thereupon Mr. Hagan filed an application for reelection.

When A. D. Millard, a member, moved the reelection of James J. Hagan, President Dr. Walter Bley refused to put the motion, claiming that it was out of order. Mr. Millard then moved for an appeal from the decision of the chair. At the same time a petition calling for the removal of Mr. Hagan signed by 500 citizens was presented. When President Bley refused to put the motion, Director Huss was named as temporary chairman. Mr. Hagan was then reelected by a vote of four to two.

PERSONAL NEWS OF SUPERINTENDENTS

—A. L. Burgoon, for seventeen years superintendent of schools in District No. 2, Diamondville, Wyo., has announced his resignation, effective in August next. During his period of service, Mr. Burgoon has kept abreast with the new ideas in education, until today every school in the district is standardized, every teacher is affiliated with the national organization, and the ninth grade is accredited by the state education department. All of the school buildings have been replaced by modern structures. A new high school has been erected at Diamondville.

—The removal of Supt. H. W. Chehock by the Marion, Iowa, school board resulted in a citizens' protest meeting. An injunction against holding such a meeting was dissolved by the local district court. The board charges Chehock with failure to discipline unruly pupils, to hold teachers' meetings at regular intervals, and to promote harmony among teachers. The members of the board are Mrs. E. G. Esgate, Mrs. Frank Straley, George Weis, E. J. Mentzer, and W. K. Lothian.

—The school board of Matawan, N. J., voted to drop J. S. McCurdy, supervising principal of the township high school. Thereupon, 300 citizens waited upon the school board and presented petitions bearing 700 signatures asking for the retention of McCurdy. The trouble arose over the high school building project. The original sum voted was $100,000. When completed, it cost $174,000, leaving a deficit in the school treasury of $5,000. It is claimed that Mr. McCurdy was responsible for the additional cost.

(Concluded on Page 137)

ADDITION TO FRANCIS JOSEPH REITZ HIGH SCHOOL — EVANSVILLE, INDIANA

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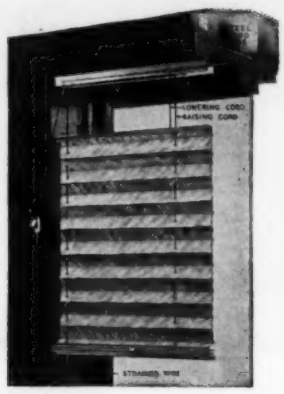
Up from the bottom or Down from the top



Detailed drawing showing construction and operation of Athey Perennial Window Shades

They fold like an accordion. Hence you can shade the part of the window that needs it without making parts of the room dark.

Nothing to get out of order

No springs, latches, or catches to slip, stick or break. The cloth of which they are made is practically indestructible. They last so many years they actually cost less money in the end.

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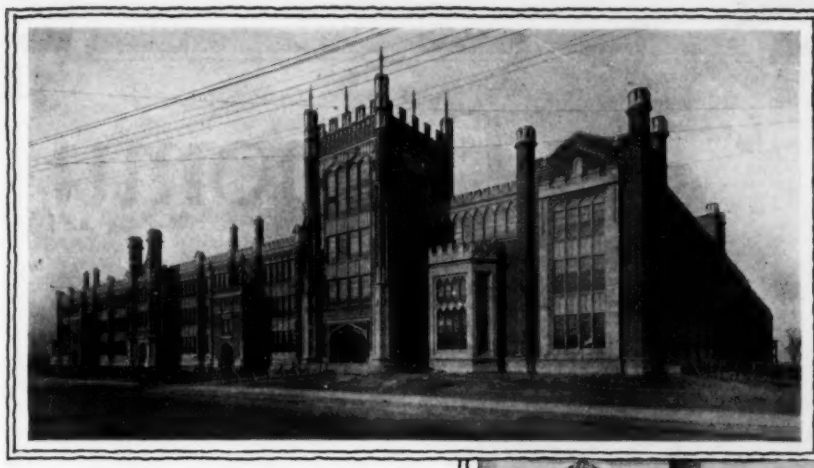

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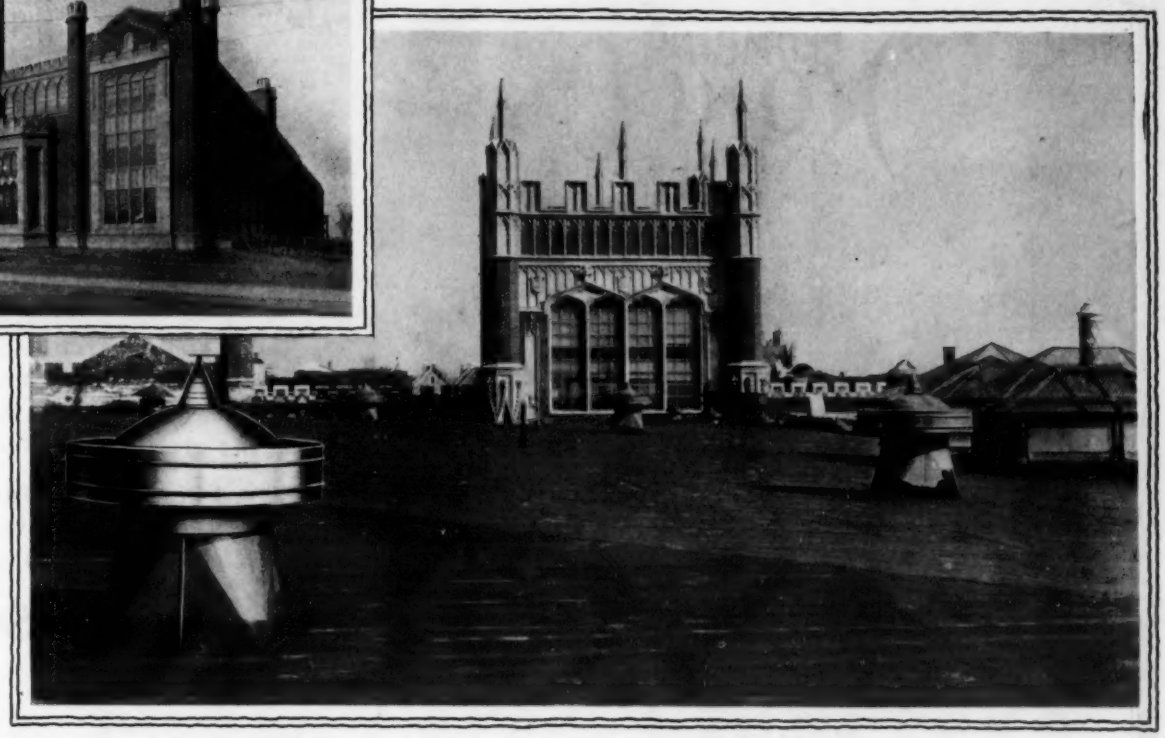

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"Globe" Ventilators furnish efficient ventilation for schools of all sizes,—from the smallest frame portable school to the largest permanent building, such as is pictured here. Figured blue prints of "Globe" Ventilators will be sent on request.

GLOBE VENTILATOR COMPANY
Department J
TROY NEW YORK

(Concluded from Page 134)

The motion to reinstate Mr. McCurdy was lost by a vote of 5 to 4; Burlew, Bolte, Hutchinson, Stember, and Warne voting against, and Gillis, Sickels, Smith, and Ward voting for the superintendent.

—The criticism that the superintendent of schools was enjoying too much authority was answered by Francis J. Brady, vice chairman of the Providence, R. I., school committee by saying: "The simple question is, 'shall the superintendent, a trained and highly paid executive, run the schools, or shall the schools be run by seven laymen, with varying ability and conflicting opinion, and the superintendent reduced from an executive to a ministerial officer who is only to do what he is told to do?'"

—Dr. John J. Richeson, superintendent of schools at Decatur, Ill., has been chosen superintendent at Youngstown, Ohio, to succeed O. L. Reid by a vote of five to three. Richeson received $8,000 at Decatur. At Youngstown he will receive $10,000 a year. The change was preceded with much discussion. The removal of Mr. Reid was attended with the charge that he had failed in securing the cooperation of the principals and teachers. A motion in the board to reelect Mr. Reid for a short term and then refer the question to a popular vote, was defeated. The five members who voted against Mr. Reid were C. W. Stillson, William Rowney, Dr. T. J. Evans, Robert McGhie, and L. U. Hulin, the board president. The members who supported Mr. Reid were J. Eugene Bennett, Henry A. Butler, and George L. Hopkins.

—The school board of Akron, Ohio, did not reappoint Principal M. E. Hawk of the East High School. A request for a hearing was denied.

—When the school board of Hyannis, Mass., decided to retire Louis M. Boody as principal of the Barnstable high school, a citizens' protest meeting was called, and an unanimous call to retain Mr. Boody was adopted. Mr. Boody has been with the school system 33 years.

—Mr. E. H. Haldaman has been appointed superintendent of schools at Esther, Mo. He has been located during the past year at Perryville, Mo.

—Mr. Charles H. Parrett has been elected superintendent of schools at McComb, O.

—Mr. R. R. Turner, of The Dalles, has been appointed State Superintendent of Public Instruction of Oregon, to succeed J. A. Churchill, resigned. Mr. Turner assumed his duties on June first, to serve until December 31st.

Mr. Churchill resigned to accept the presidency of the new normal school at Ashland. He had been state superintendent for the last thirteen years and had served as executive officer of the state board of vocational education.

—John O'Rourke has been elected superintendent of schools at Hay, Wash.

—H. C. Knight of Littleton, Mass., has been elected superintendent of schools at Belchertown.

—Mr. S. R. Logan of Hardin, Mont., has been elected assistant superintendent of schools at Winnetka, Ill. Mr. Logan succeeds W. W. Beatty.

—Supt. J. T. Miracle of Catlettsburg, Ky., has been reelected for a fourth term. In recognition of his service, the board of education has increased his salary to $3,600.

—Nutley, N. J. Mr. Colin Linn, clerk and business manager of the board of education, has been reelected for a two-year term, at a salary of $3,600 per year.

—Dr. W. L. Allee and Mr. Frank Loving have been reelected as members of the board of education at Eldon, Mo.

—Dr. Cecil Kidd, district superintendent of city schools, in charge of districts two and three of New York City, died on May 28th, at the age of 65. Dr. Kidd had served in the city schools for 41 years, and had been a district superintendent since 1913.

—Allton H. Sherman, formerly superintendent of schools at West Orange, N. J., died in May, at the age of 73.

—Memorial exercises for the late Dr. James C. Byrnes, for 28 years a member of the board of examiners of the New York City board of education, were held in June, at the Washington Irving High School in that city. The speakers were Dr. Albert Shiels of Teachers College, Dr. Edgar D. Shimer, retired, and Dr. Edward W. Stitt.

—Mr. F. H. Lynn has been reelected for a two-year term as principal of the Union High School at Las Cruces, N. Mex.

—Supt. C. E. Chrane of Boonville, Mo., has been reelected for his fourteenth term.

—Supt. O. E. Balyeat of Sparta, Mich., has been reelected for another year.

—Mr. B. F. Rosenberry of Palmerton, Pa., has been elected superintendent of schools at Pottstown.

—G. G. Lafferty, superintendent of schools at Litchfield, Ill., died May 5th at a Decatur hospital, after an illness of a week. Mr. Lafferty was well known among educators of the state and was largely responsible for civic improvements in his home town.

—Supt. R. C. Craft of Port Jefferson, N. Y., has been reelected for another five-year term as superintendent of the second district.

—Mr. C. E. Wilson of Johnsonburg, Pa., has been reelected for a four-year term, at a salary of $3,750 per year.

—Supt. W. W. Eisenhart of Tyrone, Pa., has been reelected for another four-year term.

—Supt. C. L. Millward of Milton, Pa., has been reelected for a ninth term.

—Supt. W. M. Pierce of Ridgeway, Pa., has been reelected for another year.

—Supt. George Fields of Toppenish, Wash., has been reelected for a two-year term.

—George S. Wells, a teacher for thirty years, and at one time superintendent of schools at San Jose, Calif., died on April 21st at his home in Terra Bella. He resigned from the superintendency in 1906, when he became a member of the high school faculty. In 1917 he retired from active service.

—Mr. A. W. Beattie of Homestead, Pa., has been elected supervising principal of the Ben Avon high school at Ben Avon, Pa.

—A. D. Ensley, who has served as superintendent of the Tarentum Borough, Pa., schools for twenty-one years, has been reelected for another four years. The Tarentum News in commenting upon the action of the school board says: "The board recognized in him a school man of ability far above the average and with few equals."

—Frank J. Arnold succeeds Cornelius D. Fleming as district superintendent of the New York City schools. Mr. Arnold will have charge of districts 32 and 36, Brooklyn.

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The Name to look for on Plumbing Fixtures

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Porcelain enameled iron roll rim drinking fountain with integral back, concealed hangers, push button faucet and vitreous china bubbler. Concealed pressure regulator, controlled by china index push button valve, ⅜" supply to wall, outlet strainer and 1¼" plain "P" trap.

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PIONEER MANUFACTURERS OF PLUMBING FIXTURES FOR SCHOOLS

ENDEMIC GOITER AND INTELLIGENCE IN SCHOOLS

That endemic goiter does not effect the intelligence of school children, is the conclusion drawn from a study conducted by Robert Olesen of the United States Public Health Service, and Mabel R. Fernald of the Cincinnati Vocational Bureau. The study was made last year with a limited number of pupils in Cincinnati at one level of school advancement and is not considered conclusive of conditions in all sections of the country. It is however, suggestive and rather interesting.

The data for the study were obtained through two investigations, one of which was the thyroid survey made in Cincinnati by the Public Health Service in 1923-1924. The methods employed in examining and the standards used in classifying the thyroid enlargements were presented in a special publication.

In the study, two indices of intelligence were utilized: First, school retardation or advancement as indicated by the ages of the children in a given school grade; and second, the record made in a standard group test designed to measure intelligence or brightness.

Since the children observed were all in the same grade, the sixth, their ages are indicative of the degree of retardation or advancement. The young children are the more advanced educationally, while the older are the more retarded. While the level of school advancement is far from being a reliable diagnostic measure of brightness, it is now well established that dullness is the most important single factor in producing school retardation.

The results of the examination are expressed in several different ways. The most direct result is the total score, which is obtained by adding together the scores of the ten separate tests. The total score is interpreted through comparison with norms established for the given test before it gives a rightful indication of the child's level of intelligence or his degree of brightness. The percentile rank is the measure of brightness which has been employed in the study. Norms are presented by Otis, which show the records made by standard groups of children of given ages.

Of the total number of 3,796 children examined, 1,728 were white boys and 1,630 were white girls, while 174 were colored boys and 264 were colored girls. The table shows the number and percentage of each degree of thyroid enlargement among the 1,728 white boys and 1,630 white girls in the survey. From the study, it is seen that 436, or 25.2 per cent of the thyroids of the boys were enlarged to some 642 thyroid enlargements, a percentage of 39.4. discernible extent. Among the girls there were Among the colored boys there were 42, or 24.1 per cent, with enlarged thyroids, and 137, or 51.9 per cent, with enlarged thyroids among the colored girls. A decline in the amount of thyroid enlargement among the white boys was noted after the age of 11 years, but among the girls there was a steady increase after the same age.

In another table are shown the marked preponderance of all degrees of enlargement among the girls, particularly in the thickenings of greater size. The greatest number of enlargements is that including the very slight and slight forms, which prevail to a slightly greater extent among the girls.

Another table shows that the age differences between the thyroid-normal and the thyroid-enlarged children of the group are slight and not consistent in any direction. Among both white and colored boys, the median ages are less among those with thyroid enlargements than among the normal ones. With the girls the shade of difference is in the reverse direction. Both white boys and girls with marked enlargements show higher median ages than do those with slight enlargements or with normal thyroids. However, the number of children with marked thyroid involvement is so small that the significance of these figures is questionable. It appears that the age data for the children of this group do not throw an appreciable amount of light on the problem of the relationship in question.

In a comparison of the percentile ranks of thyroid-normal and thyroid-enlarged children, it does not appear that the differences are sufficiently marked to warrant the conclusion that one group is endowed with keener mentality than the other. The chart shows decided similarities for the two groups at each age period, with relatively few fluctuations or striking peculiarities.

The study shows that there is no evidence that either the boys or girls with slight or moderate degrees of enlargement differ significantly in intelligence from those with normal thyroids. The findings furnish no justification for an assertion of general relationship between thyroid enlargement and lower intelligence. Children with marked thyroid enlargements were apparently slightly less intelligent on the average than those with normal or slightly enlarged thyroids. The number of children with marked thyroid involvement was relatively small, suggesting the desirability of further observations on children with marked thyroid enlargements before drawing conclusions concerning the influence of thyroid size upon intelligence.

SWIMMING POOL CARE AND DESIGN

The water of swimming pools, unless constantly changed or continuously filtered and disinfected, rapidly becomes polluted, particularly with nasal and mouth washings. Bacteriological tests are necessary in order to determine whether a pool is properly run.

The Health News of Albany, N. Y., offers a list of articles which should be of interest to persons or officials having oversight over such pools. The articles are as follows:

Swimming Pool Care and Design. By J. J. Hinman, Domestic Engineering, June 27, 1925.

Chemistry and Sanitation of the Swimming Pool. By A. J. Danielson, Physical Training, June, 1925, p. 286.

Troubles, Causes and Remedies with a Swimming Pool Using a Recirculating System. By R. O. Friend, Journal of Association for Promoting Hygiene and Public Baths, Vol. 7, 1925, p. 7.

—Fresno, Calif. An open air school for underweight children will be established next fall. Milk, soup and other nourishing foods will be provided by private organizations.

—San Antonio, Tex. Dr. A. J. Steele has been elected school dentist.

—Lima, O. A clinic will be held at the Faurot building for the correction of physical defects. The plan offers an opportunity for taking care of cases before the opening of the fall term, and eliminates the necessity of absence during the winter months.

Proving that *Three*-Quarters *of* your Towel Bill *is* Wasted—

Three-quarters of the money you spend for towels need not be spent. You can provide a pleasant method of drying hands and face for about one-fourth of what towels (paper or cloth) are costing you now.

SANI-DRI—the natural warm air method—is the way. For mussy, disease-carrying, expensive towels, it substitutes a stream of air electrically driven which dries by evaporation —Nature's way.

SANI-DRI—starts at the touch of a button—it stops automatically. It is efficient, fool-proof, and economical. Thirty cents pays for 1000 "dries." The annual cost is only about $1.00 per person. Investigation in over a thousand institutions shows an annual towel cost of $4.00 per person.

Check up the towel costs in your school or schools. Write today for proof that you can cut them 75% — and get a better method of drying. Do it now.

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Sani-Dri is furnished in either wall type (right) or pedestal type (left). Equipped with 110 volt Universal motor for use with alternating or direct current.

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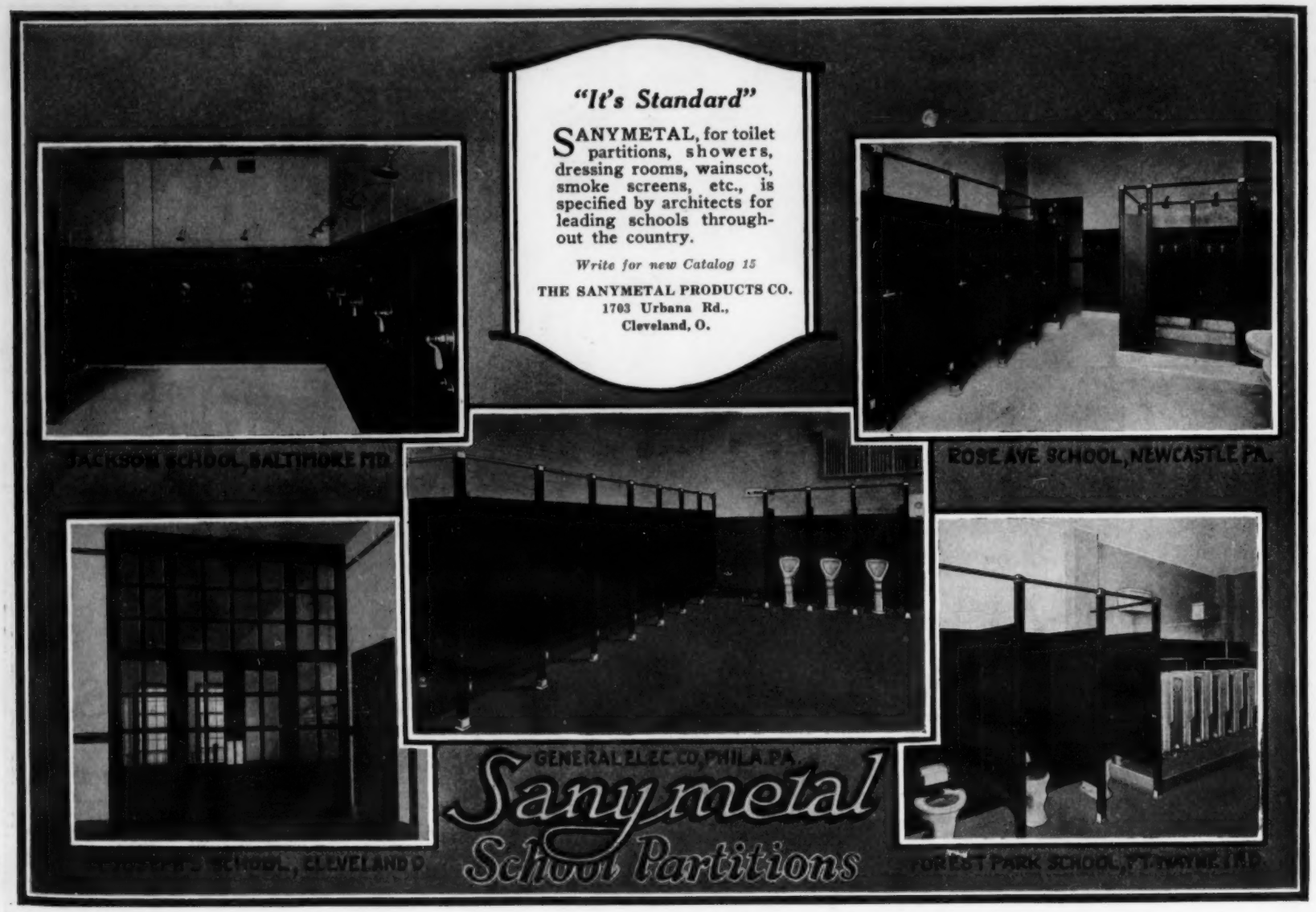
"MOTHER NATURE'S WAY"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WASHINGTON CORRESPONDENCE

United States Bureau of Education Appropriation for 1926-27

In the appropriation bill for the executive departments, Congress has provided, as usual, for the United States Bureau of Education. The amount for the fiscal year, beginning July 1, 1926, is $864,100, an increase of $69,605 over the year preceding. The entire increase is for Alaska work, the amount for the Bureau in Washington being the same. This is $207,000 for salaries and $14,600 for general expenses. Printing is paid out of Department funds.

Greater flexibility in the Bureau's work will result from the form of appropriation. In the past years the amounts for salaries have been divided by Congress for special purposes, collecting statistics, rural education, city education, kindergarten education, etc. In the present appropriation these designations are omitted, making it possible for the Commissioners to expend money for salaries on the type of education work which seems most in need of the Bureau's attention.

Dr. Ballou Reelected

Dr. Frank W. Ballou, superintendent of schools of the District of Columbia, has completed two three-year terms in office and has been elected by the board of education to a third term. This indicates general satisfaction in his work to the board in charge of the schools, and also to the citizens of the District, whose opinions expressed through various citizens' associations and gatherings have at least a degree of influence upon the board members.

During Dr. Ballou's incumbency a new salary schedule for school employees was provided by Congress in an act passed in June, 1924. This act reorganizes the administrative staff. It provides two first assistant superintendents, one for white schools, and one for colored schools, at basic salaries of $5,000. It provides an assistant superintendent for business affairs at $4,500; two assistant superintendents for educational research at $4,500, and an assistant superintendent of elementary education and educational extension.

The act made the basic salary for administrative principals $2,900 and made it possible to increase the number from seven in 1920 to over forty at the present time. It provides higher salaries for teachers in all positions. The higher salary schedule for officers, teachers, and other educational employees; the better salaries for the clerical and janitorial staffs; the increased number of administrative principals; the provision for appointment of annual substitute teachers; the enlargement and reorganization of the boards of examiners, taken together, have had a profound effect upon public education in the District of Columbia.

The higher compensation for officers and teachers has raised the morale and inspired new zeal among teachers and officers now employed in the school service. In addition, the new salary schedule has made teaching in Washington more attractive to experienced teachers elsewhere, and for the first time in many years the supply of adequately trained teachers for the Washington schools is equal to the educational demands of the school system.

Five-Year Building Program

As a result of the combined efforts of practically every organization, and in fact the entire citizenry of the District of Columbia, the five-year school building program act passed Congress and was approved by the President on February 26, 1925.

The details of this program have already been printed in the JOURNAL. In brief, they provide an outlay of approximately $20,000,000. If carried out, by 1930 the school buildings of the District of Columbia will be adequate to care for the children of the District without the use of portable buildings, rented quarters, and old and unsuitable structures now in use.

Compulsory Attendance and School Census

A new compulsory education law has been passed by Congress and is now in operation. It provided also for a school census of the District and means for keeping it up-to-date. Under the provisions of this law the compulsory attendance age is 7 to 16, except for children 14 years or over who have completed the eighth grade and who obtain a work permit and are actually and regularly employed.

The law requires private and parochial schools to conform to the general regulations, and to report the names, ages, and addresses of their pupils; also to report absentees to the newly-created attendance office. This attendance office has charge of school attendance, the school census, and issuing work permits.

CHICAGO CORRESPONDENCE

Seventy-five Chicago school buildings were scheduled for painting and decorating during the present summer. In the summer of 1925 about the same number of buildings had been cared for at a total cost of $360,000. The school board was startled to discover that the lowest bids for the work during the summer of 1926 totaled nearly $500,000. Suspicion of collusion of bidders was aroused in the board members and an investigation was started. Analysis of the bids showed that the work seemed to have been very evenly distributed among sixteen contracting firms. Startling discrepancies were discerned wherein a firm which was low bidder on one job would have a very much higher bid on another job almost identical in size and needs. Anonymous letters from contractors, who evidently were left out of consideration, made bitter complaints of "rotten" procedure. The federal authorities are reputed to be investigating possible violation of the Sherman anti-trust law. Meanwhile, the school board rejected all bids.

There are 431,728 pupils in the Chicago public schools. Of these, there are 345,087 in the elementary schools, 10,572 in the junior high schools, and 63,967 in the high schools. Twenty-three thousand, three hundred and seventy-three pupils will graduate at the end of the present semester in June. Fourteen thousand, three hundred and seventy-five are elementary school graduates.

Early last fall a Service Bulletin, issued by the Chicago Principals' Club, revealed the fact that the mean percentage of pupil failure in Chicago's 272 elementary schools for the end of the first semester of 1924-1925 was 10.3%, and that the range of individual schools was from 35.2% to .4%. Considerable thought and study have been given to the failures problem

(Concluded on Page 142)

Keeping Step With Modern Education

Centralia High School
Centralia, Illinois
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Plumber:
Fowler Brothers

State Normal School
New Britain, Connecticut
Architect:
Guilbert & Betelle
Plumber:
A. A. Wells

Kearney New Jersey School
Architect:
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What a difference there is between the great educational institutions of today and the little red school house of yesterday. Both the methods of teaching and the scope of learning are much advanced over those of previous eras.

With the advancement in education has come an increasing appreciation of the need for preserving and maintaining perfect sanitation in the school.

That is why Clow has gained and maintained its pre-eminent position in the field of school plumbing.

All Clow equipment is carefully designed, manufactured according to exacting standards, and put through thorough "set-up" tests before shipment. In addition, facilities of the world's largest plant devoted to the distribution of plumbing, heating and steam supplies, permit carrying large stocks of fixtures for immediate shipment.

It is not at all unusual that so many schools of the type pictured on this page should insist on *Clow for all Plumbing* throughout—because Clow has kept in step with the advancements of modern education.

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The Charles E. Gorton High School

at Yonkers, New York, of which G. Howard Chamberlain was the Architect and George T. Kelly was the General Contractor, has been completely equipped with

Mills Metal Toilet Partitions.

Of massive, dignified exterior, its interior is completely in harmony in its unusual design and construction.

Particularly is this true of the use of Mills Metal Toilet Partitions, recognized nationally because of their rare ability to "dress up" the Toilet Room and yet give the maximum of service.

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Consult us on your requirements. Estimates and layouts furnished entirely without obligation.

The Mills Company

5230 ST. CLAIR AVENUE MILLS METAL **CLEVELAND, OHIO**

(Concluded from Page 140)

in Chicago since that time. The Principals' Club has issued two later Service Bulletins on failures. One of them showed that there was no correlation between the failures in arithmetic as shown by a standardized test given throughout the city and the failures in the same subject as marked by the teachers. The most recent Service Bulletin outlines constructive remedial measures to overcome so much failure.

The School Board and the Educational Department became very much concerned over the failures problem. Just recently Superintendent McAndrew sent out a brief bulletin to principals on the subject, "Promotions" and "Repeaters." His statement has been called a masterpiece of failures philosophy. The bulletin reads:

To the Principals of All Schools:

"Promotions, Repeaters: As every school manager knows, this is the month in which the school's success and failure is quantitatively recorded in its promotion statistics. The pertinent question again confronts us whether a non-promotion is a failure of the pupil or of the school. Has the child failed to fit the requirements or have the requirements failed to fit him? Burk, Buckingham, and other schoolmasters hold that there are no misfit children. There are misfit courses, misfit textbooks, misfit methods, but in the nature of things no misfit children. As well say a man does not fit his clothes rather than that his clothes do not fit him. 'When, therefore, a child is not promoted the failure usually attributed to him is due to something else.' It may be beyond the power of the school to prevent the failure, but the failure, unavoidable as it may be, is ours. The usual reason for holding a child back is that he may by repetition do the grade work better. But studies of repeaters show that 65 to 72 per cent of them do no better the second time. The improvement of the 28 to 35 per cent may be due not to repeating but to their added half year of maturity. Perhaps they would have done as well without repeating. McKinney, in Springfield and Decatur, put the 1276 failing pupils on probation in the grade ahead for six weeks. Seventy-five per cent of them reached a satisfactory grade. He repeated the experiment three terms. Eighty-five per cent of the probationers were promoted without a question after the first trial promotion. The usual scholarship of the whole school averaged 80.4. But at the end of the first semester with trial promotions the whole school averaged 81.1; at the end of the second semester, 82.2.' (From Buckingham's new book: 'Research for Teachers.') Repetition of grades is too expensive a proposition to be required on the old unproved theory of withholding reward from the lazy. It is expensive in money and in the lives of children. Pushing children ahead who flounder, lose heart and grow bewildered is too damaging to them to be justifiable. In nothing you do is there more need of intelligent judgment than in the regrading of your children at the close of the term. You cannot ignore the results of the Springfield-Decatur experiments. Neither can you properly outdo them in a wild rush of unintelligent mechanical system. The essential thing is to put children where they will profit best. If in doubt, it is easier to put them ahead until you find they cannot profit and then quietly return them to tasks within their powers. The number of children behind the grade indicated by their years is too large to satisfy any schoolmaster."

There has been exactly ten times as much failure as special promotion in the Chicago elementary schools. Is this ten-to-one ratio askew with that of other cities? Probably not. But it would seem to indicate that we school people are much more prone to penalize for lack of merit than we are to reward for superior merit. Does it mean that Chicago's brightest children are being retarded?

Most every Chicago school has attacked the problem of securing a bona fide reduction in pupil failures. The result is shown in city-wide statistics. Between February 1, 1925, and February 1, 1926, there was a 2½% reduction in the per cent of failure in the elementary schools. This represents approximately 8,000 fewer children failed. Statisticians have figured the money saving of this failures reduction to amount to about $640,000 for the year.

NEW SCHEDULE FOR CINCINNATI

—The teachers' salary committee of the Cincinnati school board has presented a report, stressing the importance of teaching and the worth of the efficient teacher. The report lists the factors which must be considered in the formulation of a schedule, presents the schedule proposed, and then offers an explanation of the application of the schedule to teachers now in service and the probable cost of its operation through the next ten years. Salary schedules in large cities in the United States, with a variety of supplementary material, including nineteen explanatory charts, accompany the report. Some of the main items of the schedule, as presented by the committee, are given below:

Teachers are grouped in three classes: Class I, teachers with two and less than three years of training, including required professional training beyond high school; Class II, teachers with one year's training beyond Class I; Class III, teachers with one year's training beyond Class II, and having bachelor's degree.

Salaries for Class I are $1,600 to $2,000; Class II, $1,600 to $2,225; Class III, $1,600 to $3,100.

Assistant Principals

Elementary teaching assistants, $3,250 to $3,400; elementary supervising assistants, $3,250 to $3,550; junior high, $3,250 to $3,850; senior high, $3,250 to $4,150.

Principals

Elementary, 1-9 teachers, $3,550; 10-19 teachers, $3,550 to $3,850; 20-29 teachers, $3,550 to $4,000; 30 and more teachers, $3,550 to $4,150.

Junior high school, $4,000 to $4,600; senior high school, $4,300 to $5,200.

The maximum for all persons in the system is increased $150 for a master's degree and an additional $150 for the doctorate in philosophy. Honorary degrees are not recognized.

The salary of a director should be placed between the elementary and the high school principals' salary, says the report. Some credit is granted for the conversion of vocational experience into normal training values.

Kindergarten assistants, $1,600 to $1,700.

Senior high school department heads, $300 above teachers' maximum.

Student supervisors in senior high school, three increments beyond maximum.

Cooperating and demonstration teachers, two increments additional.

Teachers of blind, deaf, crippled and mentally defective, one increment additional.

Student teachers, $700.

Vocational teachers, $1,600 to $2,500.

Increments, Class I, $100; Class II, $125; Class III, $150.

No increment is given in a new teacher's second year.

STUDENT GOVERNMENT AT LEONIA, N. J.

Under the leadership of Mr. Carl Suter, and with the cooperation of Principal Nelson C. Smith, a form of student government has been inaugurated in the high school at Leonia, N. J. Certain steps in the development of the plan resulted in a "student day," when a group of junior and senior students to the number of 750, carried out their work for the day without faculty help or control.

Under the plan, all the activities of the students were placed in their control on June 3rd. Of a faculty group of thirty, only three teachers were in the building during the day. The secretary to the principal, in charge of the records, was present to perform her regular work.

The day was not advertised but a number of visitors were present, including the teachers who used the opportunity for their own benefit.

Economize Safely with These "Public Service" Towels

National Paper Products for your building

"No-Waste" Toilet Paper
The tissue that is soft, strong and absorbent. 800-sheet packages. 125 packages to fibre cartons. Nickel, green or white cabinets leased.

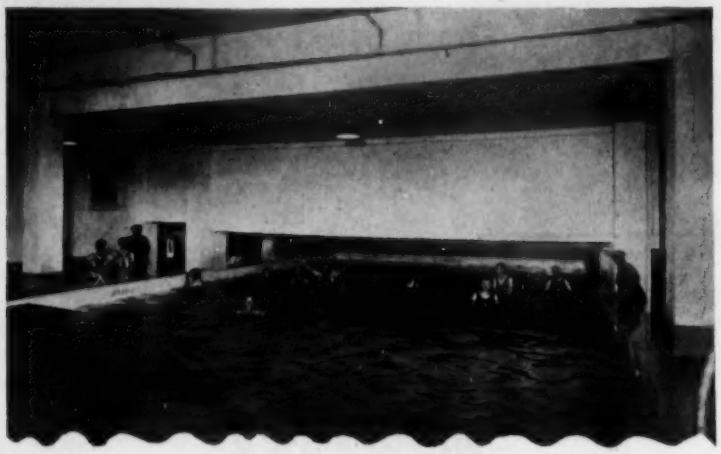
"Public Service" Towels
Regular and Junior sizes. 150-towel packages 25 packages to carton. Sheet metal cabinets in white or olive green.

"Toiltex—in Rolls
1000 counted sheets in a sanitary wrapped package for the home. Same quality as "No Waste" and made from clean spruce wood only.

YOUR building or office should be one of the thousands that have standardized on "National" washroom paper products—at average savings of from 20% to 30% over previous costs.

Both "Public Service" Towels and "No-Waste" Tissue are made in the largest paper mills of their kind—where the safety of absolute sanitation goes hand in hand with the economy of tremendous production.

"Public Service" Towels wipe dry and dispense one at a time from metal cabinets. They are the present day answer to the problem of economizing safely in your washrooms. Write for literature and name of our nearest jobber. Address: National Paper Products Co., 69 Furnace St., Carthage, N. Y.



Like the Old Swimmin' Hole But Purer Than the Water You Drink

HERE'S a pool with all the lure of the old swimmin' hole. That water is just as refreshing as nature intended it to be. It is free from biting, irritating chemicals. And it is purer than that specified by the U. S. Treasury Department Standards as pure drinking water. It has been sterilized with R-U-V Ultra Violet Rays.

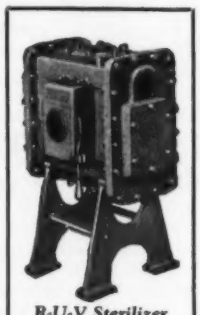
If you are in charge of swimming pool design or operation, you can assure this pure and refreshing water by specifying R-U-V Sterilizers on the recirculating system or water inlet of the pool.

Powerful ultra violet rays, produced by quartz mercury vapor lamps, penetrate each drop of water that goes through this sterilizer, and instantly kill all harmful bacteria. In addition, these rays set up a residual germicidal action that keeps the water pure after it is in the pool. And the R-U-V is easy to operate, because the action is practically automatic. There is no dosage to regulate. And the bactericidal action is always positive and unavoidable.

But remember this—the chemical composition of water sterilized with an R-U-V is not changed in the least. Nothing is added to and nothing is taken from the water.

If you are interested in providing such water for your pools—water that feels just like nature intended it to feel, and is pure enough to drink — write for our latest swimming pool booklet G-21.

It contains a number of illustrations and descriptions of typical R-U-V installations.



R-U-V Sterilizer Type M-A-2

THE R. U. V. CO., INC.
383 Madison Ave.,
New York City

JAMES B. CLOW & SONS
201-299 No. Talman Ave.,
Chicago, Ill.

R-U-V

Ultra Violet Ray Water Sterilization

The Ideal Installation for Schools

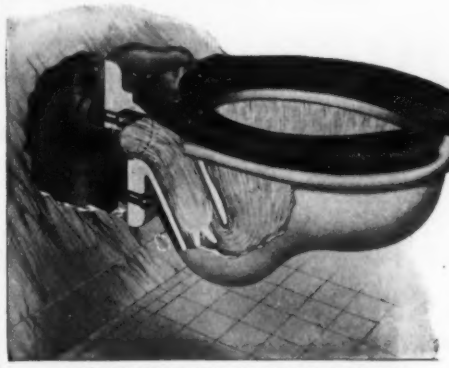
Watrous

Flush Valves and Duojet Closets

More Sanitary—More Economical
Clogging and Overflowing Avoided

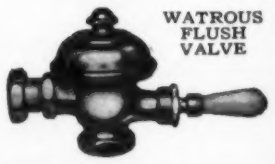
IN the Watrous Duojet Closet there are special safeguards against the danger of a choked outlet. Also, the bowl is very economical with water. It eliminates the narrow outlet which is needed beyond the trap in most single-jet bowls to maintain syphonic action, but which often occasions clogging, overflowing, and heavy repair bills. Two powerful converging jets effect a thorough flush, at a far lower water-consumption than is required by the majority of single-jet types.

WATROUS DUOJET FLOOR CLOSET



WATROUS DUOJET WALL CLOSET

The wall type of bowl, as it does not rest on the floor, greatly simplifies the work of cleansing the toilet room, and by dispensing with furred ceilings and closet connections in floors it promotes economy and speed in the erection of new buildings.



WATROUS FLUSH VALVE

The Watrous Flush Valve delivers the exact quantity of water required for a thorough flush by the bowl with which it is used. Therefore, when installed with the water-saving Duojet bowl, it makes possible substantial annual economies that may be added to the saving afforded by the non-clogging feature. The valve has a self-cleansing device which automatically prevents obstruction.

The Watrous line includes several models in which the flushing is effected by automatic seat-action. Among these is the "Juvenile" type, with a bowl of less than normal height, suitable for small children.

Write for full details on the Watrous Flush Valve and Duojet Closets

PLUMBING DIVISION

Watrous Flush Valves, Duojet Closets, Self-Closing Basin Cocks, Combination Lavatory Fixtures, Pop-Up Wastes, Liquid Soap Fixtures, Etc.

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R. J. Shank, 724 Grand Ave., Des Moines, Ia.
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Charles S. Anderson, 6614 Minne Lusa Ave., Omaha, Neb.
Wm. P. Horn Co., 237 Rialto Bldg., San Francisco, Cal.
L. C. Coombs, 1234 S. Broadway, Los Angeles, Cal.
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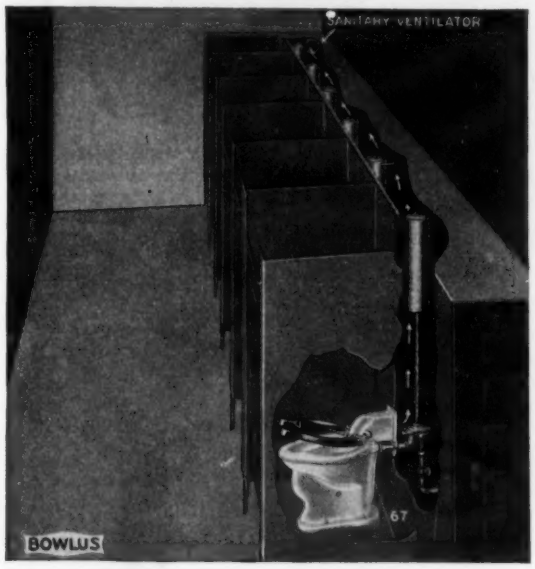
BOWLUS "JEWEL" AUTO-MATIC WATER CLOSETS

Suggestive Installation Plan of Bowlus No. 67 Ventilated Closet



Bowlus Ventilated Jewel Closet No. 67

BOWLUS VENTILATED JEWEL CLOSET
Exclusive For Schools

No. 67 Bowlus "Jewel" Seat Action Closets —designed especially for school requirements. Valve, tank and connections assembled in air-tight utility room from which bowls are receiving a constant supply of fresh air through the vent conduit, insuring perfect sanitation in both bowl and toilet room.

Bowlus No. 67 Raised Rear Vent Closet includes automatic Jewel Valve, vitreous china enameled grey iron vent conduit, extra heavy vitreous china jetted bowl with extended front lip. Also open front and back ebony or natural oak seats with nickel plated and polished seat attachments, and concealed galvanized compression tank.

Vent can be attached to any regular washdown or jetted bowl or where raised rear vent bowl is used. Wall of utility room may be marble slab, brick, slate or cabinet steel sheeting. Long or short vents supplied according to materials used for utility room wall.

We furnish only materials for closet. Materials mentioned above for walls are suggestions only.

Roughing-in 8 inches from utility room wall.

Bowlus "Jewel" No. 61

Bowlus "Jewel" No. 61 Concealed Tank Closet Combination, seat operating, includes Jewel nickel plated and polished automatic valve, with extension through wall. Elevated or low down concealed galvanized compression tank, and flush pipe. Extra heavy jet vitreous china bowl. Golden oak closed front seat. Roughing-in measurements 13½ inches.

Ask Your Plumbing Supply House for Prices

THE BOWLUS MANUFACTURING CO. SPRINGFIELD, OHIO

BOOK REVIEWS

Civics Test

By A. W. Brown and Clifford Woody. Form A, with directions, key and class record. Price, $1.30 per set of 25. World Book Co., Yonkers, N. Y.

The test is in three parts to determine (a) the pupils' civic vocabulary, (b) his civic information, and (c) his civic thinking. The tests are quite inclusive and have been tried with a sufficient number of children to establish a standard for the upper grades, the junior high school, and beginning classes of the senior high school.

The Constitution of the United States

By William Backus Guitteau and Hanson Hart Webster. Cloth, 216 pages. Published by Houghton, Mifflin Company, Boston.

The text of this book is built upon and around the Constitution of the United States. The origin, meaning, and application of this remarkable document are ably presented. Every sentence and paragraph is analyzed and explained.

The authors present the historic background of the document and the fundamental principles upon which it is founded. The several amendments, too, are listed and explained. The final section is a detailed account of the history of constitutional government in the colonies. The book is well balanced and quite conservative in its entire content.

Junior Typewriting Studies

By William E. Harned. Cloth, 93 pages. Price, $1.32. Ginn & Co., Boston, Mass.

Junior Typewriting Studies is a course in touch typewriting designed primarily to meet the special interests, needs, and capacities of junior high school age.

The book aims to fulfill four educational purposes in typewriting, namely, the establishment of efficient and economical habits in technical skill; the development of accuracy in observation and action; the union of thinking with doing; the acquirement of practical information having educative value.

The book takes up such phases of the subject as art work in typewriting, touch typewriting exercises, even shading and effective display, paragraphing, writing sums of money, centering headings, the tabulator and indentions, financial statements, making corrections, artistic display of English compositions, special signs and characters, and adaptation of typewriting contest rules to junior high school work.

The text is interspersed throughout with practical applications of the rules for writing English, in the solution of problems, and in the exercise of judgment. There is a teacher's record card and a typewriter chart for a standard keyboard.

Children of Other Lands
The Child's World
Type Studies of Eskimos, Indians, Dutch and Japanese

By Lena C. Albinger. Ideal School Supply Co., Chicago, Ill.

The first package of this material deals with ten interesting children of other lands and suggests seat work for silent reading, vocabulary building exercises, written work, poster work, and booklet making.

The second group of material is intended to make the child familiar with his family, his home, and all that enters into his daily life. The work involves silent reading.

The third group of material represents type studies of Eskimos, Indians, Dutch and Japanese people and teaches customs, manner of life, and other interesting phases of life. It is intended to be both informational and to provide material for silent reading, sentence construction, etc.

L'Abbe Constantin

By Ludovic Halevy. Cloth, 328 pages. Illustrated. Published by Charles E. Merrill Co., New York city.

This edition is abundantly provided with questions, exercises, and a complete vocabulary.

My Cut-a-Picture Book

By Anna E. Sample. Cloth, 128 pages. Silver, Burdett Co., New York City.

This reader suggests a series of cut paper problems based on interesting animal and Brownie stories. It combines silent reading, story writing group activities, and games, and is so arranged that the pictures and stories can be gathered and sewed up in a book. The work is easily within the ability of first grades and provides very useful busy work.

Social Arithmetic

By Frank M. McMurry and C. Beverley Benson. Cloth, 345 pages. Published by The Macmillan Co., New York City.

This book is a radical departure from the conventional elementary arithmetic. It introduces the study of numbers on the basic individual social needs for making calculations at home, away from the home, at school, in measuring time, distance, and other quantities; in raising and distributing farm products; in life in the city, on a journey, etc. The book takes the form of stories and develops a completely graded introductory course for the middle grades. From the common operations the work progresses to fractions and mixed numbers. The problems are taken from real life, are related to children's natural experiences and activities, and are carefully graded for difficulty and practice. The work is well illustrated.

The Menace of Nationalism in Education

By Jonathan French Scott. Cloth, 223 pages. Published by The Macmillan Co., New York City.

A pacifist argument against the nationalist viewpoint in the schools of England, France, and Germany.

Problems in Artistic Wood Turning

By Earl W. Ensinger. Cloth, 71 pages. Illustrated. Price, $1.25. Bruce Publishing Company, Milwaukee, Wis.

A book of tested problems for high school wood shops. It is fully illustrated and contains ample directions.

Art in Every Day Life

By Harriet Goldstein and Vetta Goldstein. Cloth, 466 pages. Illustrated. The Macmillan Co., New York City.

This book discusses and illustrates the principles of art as applied to pictures, furniture, room arrangement, buildings, and clothing. As an advanced text for classes of girls, it is complete, practical, and full of common sense suggestions which can be carried out in the middle class home.

Teaching Dull and Retarded Children

By Annie Dolman Inskeep. Cloth, 455 pages. Published by The Macmillan Co., New York City, N. Y.

Installed in Hundreds of Schools

Rundle-Spence Vertico-Slant Fountains have been installed in hundreds of schools. Here is a "health bubbler" that has been approved by authorities as meeting with the most rigid requirements of drinking sanitation.

***Lips can't touch the R-S nozzle*—this is a positive sanitation safeguard. No possibility of germ-laden mouths spreading contamination by means of lip-contact. Clear, fresh, clean water always flows.**

Sanitary Drinking Fountains, Bath and Plumbing Fixtures and Supplies are included in the R-S line. Write for illustrated catalog with complete information.

RUNDLE-SPENCE MFG. CO.
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C 92

Handsome vitreous china one piece fountain. Combines all the conveniences of the vertical stream with the special slanting stream feature. Glass or cup may easily be filled from it.

C 147

A pedestal fixture of galvanized pipe with extra heavy vitreous China bowl and vertico-slant stream. An extra strong fountain for the playground.

The author is an experienced instructor of classes of retarded and dull children who are unable to make progress in the regular grades in competition with normal children. After outlining what she considers objectives in the teaching of these children, the author presents concrete suggestions for organizing and teaching reading, language, spelling—all the common branches. Her recommendations for materials and methods are evidently based on broad experience and have the ring of practical utility for any teachers.

"Mere learning does not round out or complete life" writes the author in a chapter on appreciation of music and literature. It is a pity that she did not add to that chapter another on religion and ethics for these poor children whose existence cannot be complete or happy without these basic elements of a well-rounded life.

Toute La France

By Jean Leeman. Cloth, 201 pages, illustrated. Price, $1. Published by Charles E. Merrill Co., New York City.

The forty-four reading lessons take the second year student on a journey through the most picturesque and interesting regions of France, its great cities, and its industrial regions. Ample grammatical and conversational exercises are provided.

Studies in Public School Finance—The South

Fletcher Harper Smith and John H. Goldthorpe. Paper, octavo, 224 pages. Price, $2.50. University of Minnesota, Minneapolis, Minn.

This exhaustive study of the situation in Arkansas, Oklahoma, Alabama, and Tennessee is clearly indicative of the fact that each of these states can and should solve its financial problems by sane legislation for taxation and equalized distribution of funds. The writers have overlooked an opportunity in not recommending immediate and possible remedies rather than very complete and even radical changes which in some cases are outside the field of school finance proper.

A Tour on the Prairies

By Washington Irving. Edited for School Use by George C. Wells and Joseph B. Thoburn. Cloth, 251 pages. Published by the Harlow Publishing Company, Oklahoma City, Okla.

The editors of this book deserve much credit for rescuing from obscurity this story of a pioneer journey into the great country that is now the state of Oklahoma. The notes and glossary are complete.

Introductory Mechanical Drawing Problems

By Glenn N. Schaeffer. Paper, 48 pages. Price, $.28. The Bruce Publishing Company, Milwaukee, Wis.

This little book is a junior high school text, arranged in a series of ninety problems for beginners. The problems are carefully selected, progressively grouped as to method, difficulty, and the possible progress of pupil.

A variety of problems are included to allow for the selection of teaching material fitted for the pupil of varying ability. The problems are presented in unsolved form requiring the student to think as well as to draw.

The Declaration of Independence for Young Americans

By George William Gerwig. Cloth, 122 pages. Price, $1.25. George H. Doran Co., New York City.

American schools have never had the opportunity of studying so complete an analysis of the document which freed the American colonies from England, as is presented in this book. The work is in fact an explanation of the principles of human life and of human liberty and rights which our forefathers had clearly in mind when they pledged their lives, fortunes, and honor in the fight against intolerance and oppression. The author is not always clear in carrying out the argument which the plain letter of the document provides or implies. Thus, he speaks of the "inalienable rights" with which the people "are endowed by their creator" but he does not see that if these include the right to govern themselves, that, therefore, all power of government is of divine origin through the people. The final section on the junior republics contains some typically American inconsistencies and omissions.

The Weber-Koch-Moran Series of Arithmetics

By S. E. Weber, Charles D. Koch, and K. E. Moran. Book I. Cloth, 319 pages. Book II. Cloth, 254 pages. Book III. Cloth, 268 pages. Published by Christopher Sower Co., Philadelphia, Pa.

These books provide a continuous course for grades two to four, five and six, and for the seventh and eighth years, in the junior high school. They recognize no break between the work of the seventh and eighth grades, whether these be organized in the typical eight-year school or in the newer six-year elementary and junior high schools. While the newest methods and correlations are employed, the books are quite conservative in viewpoint and free from extreme experiments in organization and problems. Child interests and social values are stressed in explanations, exercises, and thought problems. The seventh and eighth grade work looks definitely to commercial, industrial, and agricultural uses of figures and figuring. The books are carefully printed, well illustrated, and well bound.

An Exhibition Handbook. Assembled by Randall D. Warden. Paper, 80 pages. Price, $1. Published by A. S. Barnes & Co., New York City.

Marching Drills. Arranged by John N. Richards. Paper, 30 pages. Price, $1. A. S. Barnes & Co., New York City.

Iroquois Arithmetics

By H. De W. Groat, S. G. Firman, and Wm. A. Smith. Cloth, 340 pages. Iroquois Publishing Company, Syracuse, N. Y.

This book carries forward to the fifth and sixth grades the work so splendidly begun in book one. It may be worth while to state the authors' method of compiling the book in order to understand its arrangement and content. The basis of the book is not only the long experience of the authors as teachers and supervisors but also a vast amount of materials, problems, and devices which they have gathered from numbers of teachers and have sifted, organized, and restated. All of the basic materials have been studied in the light of the Clapp and Buswell-Judd investigations and Department of Superintendence curriculum recommendations. The aims, methods, and drill work of the book have been further subjected to comparison with all the available late state and city courses of study.

The authors have made good use of their opportunity. The book is well balanced and amply supplied with all the aids which any teacher may wish. Tests are frequent and fulsome; ample work is given for both oral and written application of principles.

(Concluded on Page 148)

LAMAR SCHOOL, DALLAS, TEXAS — LANG & WITCHELL, *Architects*
A Recent Haas Installation — S. G. BLOCKER, *Mech. Supt. Dallas Board of Ed.*

Plate 205 Universal Seat Action

Siphon jet bowl, two piece oak seat with galvanized hinge and "Haas" Universal Seat Action Valve with angle compression stop in rough nickel finish — or polished nickel plate if desired.

Children's Use Makes Staunch Toilets Imperative!

Breaking down of a water closet in the home is inconvenient; in a school it is menacing to health. Yet an aggregation of children subjects school toilets to almost constant abuse.

Haas Water Closets and Haas Flush Valves are designed to withstand such punishment. Their scientific details and sturdy construction enable us to guarantee them unqualifiedly for five years. In thousands of schools they are serving continuously and well—after so many years that the date of their installation is forgotten.

Haas Valves have no metal-to-metal contacts—no parts to wear loose or rattle — nothing that can clog — no needlepoint adjustments. They are internally self-cleansing in all waters.

Haas Toilets are built of the finest materials obtainable, in every particular, yet their cost is low.

Get the full facts of Haas performance before ordering or specifying. No obligation on your part, and a pleasure on ours.

Catalogs sent to school officials and architects on request

WATER CLOSETS **Haas** FLUSH VALVES

PHILIP HAAS COMPANY

ESTABLISHED 1896

DAYTON OHIO

You'll find them in all the finest schools

A roll-call of schools in which Halsey Taylor Drinking Fountains have been installed would be a roll-call of all the country's finest schools! For school authorities and school architects know the value of these hygienic drinking devices. They know

HALSEY TAYLOR
DRINKING FOUNTAINS

present the acme of sanitation and satisfaction! They combine practical utility with craftsmanship in design, but in addition give an assurance of health-safety not afforded by any other make or type.

THE HALSEY W. TAYLOR CO., Warren, O.

WHAT IS AUTOMATIC STREAM CONTROL?

In Halsey Taylor Drinking Fountains AUTOMATIC STREAM CONTROL makes them practical and sanitary. This is simply a device which automatically takes care of pressure variation. When the water pressure is low the drinking stream is still at same height, when the pressure increases the stream DOES NOT VARY. That means you can always drink from the same point, you need never touch projector nor will you ever find the water squirt on to the floor! EXCLUSIVELY HALSEY TAYLOR!

Shown in Illustration

is the No. 616 pedestal, a handsome installation for school corridors. The inset cut-away view shows the Halsey Taylor two-stream projector and the resultant safer stream which keeps lips and fingers away from projector.

Write

for your copy of folder now on press, entitled "The Truth About Drinking Fountains." Also contains plates of many school edifices recently erected with Halsey Taylor installations.

(Concluded from Page 146)

First Lessons in Nature Study

By Edith M. Patch. Cloth, large octavo, 287 pages. The Macmillan Co., New York, N. Y.

Fourteen important groups of plants and animals are here described for children in the middle grades. The book has nature study as its aim as well as subject-matter and the author revels in the marvelous story which is to be found in structure, habits and life cycle of the many widely found insects, birds, mammals, etc., etc., of the United States. And the story is told interestingly, simply, and accurately. The illustrations and typography of the book are quite above the usual.

The Pageant of Port Jervis, Port Jervis, N. Y. The pageant of Port Jervis, given under the auspices of the city schools in May last, was developed as a means of compiling and preserving a history of the famous Minisink Valley in the vicinity of Port Jervis, and of offering material for similar pageants by other school systems. It takes up such important events as the building of the Delaware and Hudson Canal, the opening of the Erie Railroad project, and the part which the city played in the War of the Revolution.

Result of a Survey of Grade Placement, West Allis, Wis. Bulletin VI, No. 12, May, 1926. H. B. Nash, director. The tables show the grade placement of children based on chronological age, the grade age norms of pupils, and the distribution of pupils based on mental age.

Retiring Allowances for Officers and Teachers in Virginia Public Schools. By Clyde Furst, R. L. Mattocks, and Howard J. Savage. Bulletin No. 17, 1926, issued by the Carnegie Foundation for the Advancement of Teaching, New York, N. Y. The study was made at the suggestion of the Virginia teachers' association and the state board of education, and shows how the retirement of teachers and officers in Virginia schools can be placed upon a sound and permanent basis. The bulletin gives information relating to the details of the plan of retirement, the estimates of cost, and additional information to afford guidance in the drafting of contemplated measures. A section of the bulletin is devoted to a discussion of the relative cost of provisions for retirement because of age or of disability, and of benefits in the case of death or withdrawal from service before retirement.

The Teachers' Council. Annual report of the president and the recording secretary, of New York City, for the year 1925. The council has made a study of the all-year school and will make a report on the subject. The council seeks to initiate policies and procedures which add to the welfare of pupils and teachers and which results in the general betterment of the entire school system.

School Bonded Indebtedness in Nineteen Wisconsin Cities. By Frank O. Holt and John Guy Fowlkes. Educational Research Bulletin No. 5, January, 1926, issued by the University of Wisconsin, Madison. The study was undertaken as a means of determining the status of Janesville among the larger cities of the state, as to its ability to afford schools, and as to its practice in spending money for schools and their maintenance. The study is of interest to people of the cities involved, but it is also of interest to those interested in municipal expenditures and to those who have a particular interest in education. The studies of the wealth of the cities, the bonded debt of the cities, and the expenditures for educational purposes have been made with a view of determining ability and performance in matters of education among the cities mentioned. Among the subjects covered in the study are the ability of the cities to finance public education, the ratio of assessed to true valuation in nineteen Wisconsin cities, per capita assessed and true valuation, school census and school enrollment, average daily attendance, ratio of total municipal bonded debt to assessed valuation, school bonded debt, total assessed tax rate (including school), total true tax rate (including school), assessed school tax rate, per capita school bonded debt, total municipal bonded debt per child in average daily attendance, total school expenditures, per capita school expenditures, school bonded debt per child in school census, school bonded debt per child enrolled in public schools, and school bonded debt per child in average daily attendance in schools. The pamphlet contains a suggestive bibliography on the subject.

Government Specification

Several new master specifications of interest have been agreed upon by the Federal Specification Board and are now published by the U. S. Bureau of Standards. These are supplementary to others prepared earlier by the board mentioned in the SCHOOL BOARD JOURNAL for July, 1925. Copies are obtained from the Superintendent of Public Documents, the price being five cents for each, except R 16, which is fifteen cents.

The following are listed:

C 301. Ink, drawing, colored waterproof.
C 302. Shellac, flake orange.
C 303. Varnish, shellac.
R 16. Lumber (first revision).
R 38. Sandlime brick.
R 44. Boxboard thickness.

—The school board rules of Bridgeport, Conn., provide that when a woman teacher marries she is automatically released from her position. There is nothing in the rules, however, that would prevent the board from reemploying the married teacher. It was explained by one board member that the rule was aimed primarily at flapper teachers who look upon the teaching profession as an easy way to make money, until after they are married; when a flapper teacher marries she will automatically be dropped and there will be little likelihood of her ever being re-hired.

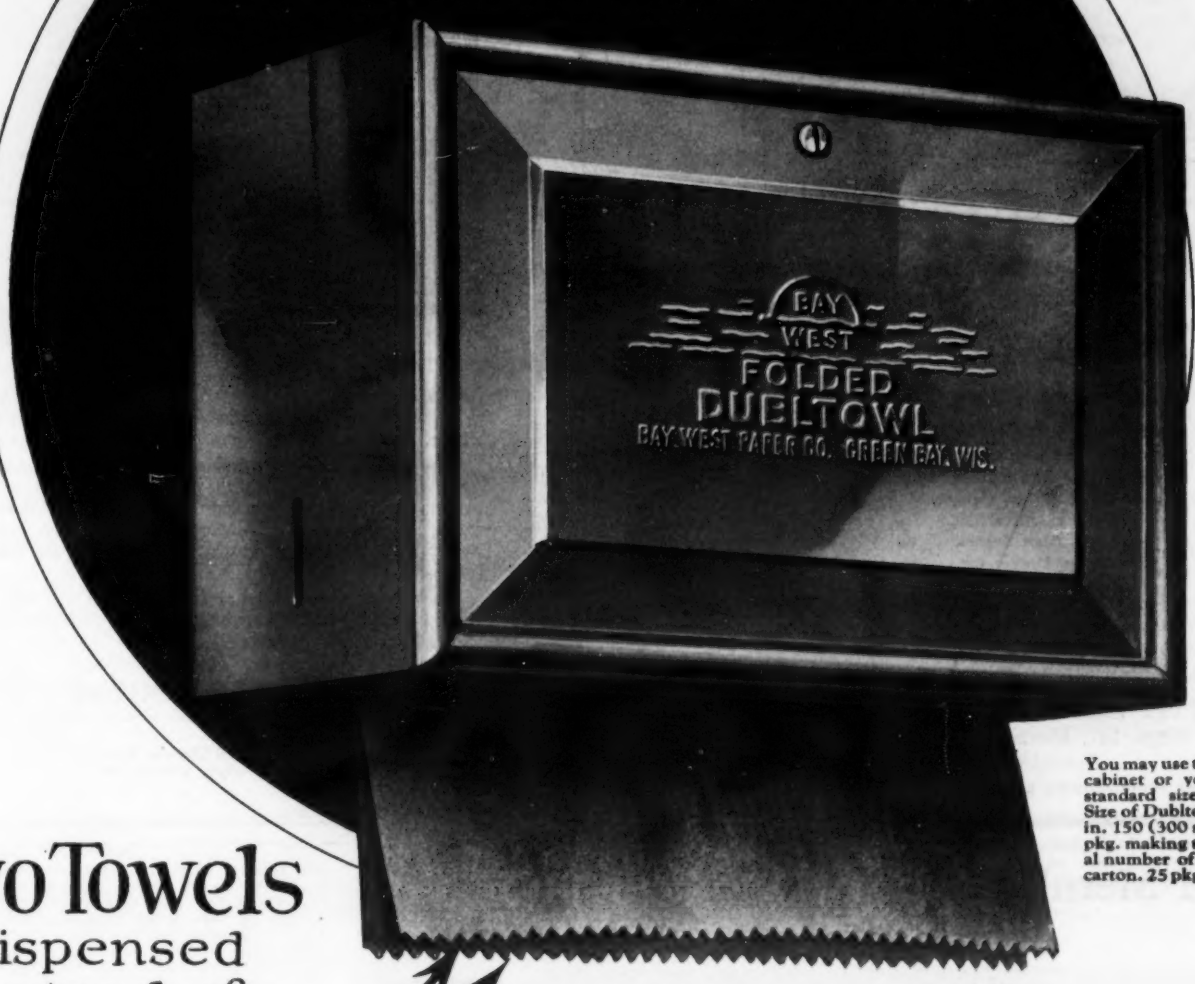
—St. Joseph, Mo. The enrollment in the public schools has increased from 13,907 last year to 14,277 this year. The high school graduates have increased from 355 to 392, and the junior college graduates from 39 to 72. The faculties of the Benton and Central High Schools, as well as the junior college, have been increased for the next year due to increased enrollments.

Personal News

—Supt. T. C. Morrill of Newport, N. H., has been reelected for an indefinite period. Mr. Morrill has completed two and one-half years of service.

—Announcement has been made of the death of Mr. F. L. Manasse, eastern manager of the Laurel Book Company, New York city. Mr. Manasse was a bookman of long experience and enjoyed a wide acquaintance among schoolmen in the east and middle west.

A New Idea In Paper Towel Service



You may use this Dubltowl cabinet or your present standard size equipment. Size of Dubltowl 10 x 10¾ in. 150 (300 sheets) to the pkg. making twice the usual number of sheets to the carton. 25 pkgs. to the case.

Two Towels Dispensed Instead of One

Stop Waste of Toweling

Dubltowls reduce the cost of towel service. Smaller in size, lower cost per sheet. Dispensed in pairs (a towel for each hand.) No second helping necessary. *One Dubltowl wipes dry* and its efficiency stops the careless user from wasting.

Dubltowls have exceptional merit. Made of unbleached all-kraft stock free from caustics and chemicals. Strong, yet soft as a cloth towel. Can be used as readily on the face as on the hands. No harshness. Remarkably absorbent. Will not break up. Leave no objectionable lint or fuzz.

Contract has recently been awarded Dubltowls for 2nd year in Los Angeles schools. Adopted as standard in many schools throughout the country.

Bay West Hydro Junior, all Sulphate Kraft Towels, dispensed one sheet at a time, meet the requirements of the school buyer who desires lower cost per towel delivery. Size 10x10¾ in. 150 heavy, single sheets to package.

Dubltowls combine every feature a paper towel should have—these four essentials:

1, Instant Absorption. *2, Strength.*
3, Satisfactory Service. *4, Economy.*

Write or wire for prices, samples and name of nearby distributor who can make immediate shipment.

BAY WEST PAPER COMPANY, *Green Bay, Wisconsin*

BAY WEST DUBLTOWLS

"ONE DUBLTOWL WIPES DRY-YOU TRY IT"

Evernu
Everlasting Hard Rubber
Seats
Evernu is the perfect seat. The interior wall of special hard rubber of great strength and the outside surface of solid color hard rubber are vulcanized under hydraulic pressure into one lasting piece.
No finish to wear off. No joints to open up. The hollow center provides lightness with strength. The hinge is as durable as the seat.

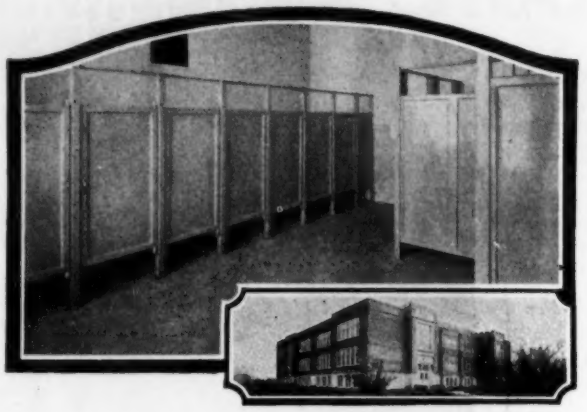
No paint or varnish to wear off. The pure black hard rubber on an Evernu Seat is simply buffed until it shines. This fine appearance, with ordinary care, will out last the building. The hinge never loosens. The rapidly increasing list of Evernu installations includes schools of the following cities:

PUBLIC SCHOOLS OF:
Chicago, Ill.
New York, N. Y.
Los Angeles, Calif.
San Francisco, Calif.
Indianapolis, Ind.
Evansville, Ind.
Harrisburg, Pa.
Kansas City, Mo.
Seattle, Wash.
Baton Rouge, La.
Tacoma, Wash.
Philadelphia, Pa.
Cleveland, O.
Mobile, Ala.
Dallas, Tex.

Shreveport High School, Shreveport, La.
Junior and Senior High School, Chillicothe, Mo.
Pine Bluff Junior High School, Pine Bluff, Ark.
Woodrow Wilson School, Eugene, Ore.
Ohio State University, Columbus, Ohio.
San Jose High School, San Jose, Cal.
Selingrove University, Columbus, Ohio.
Frances E. Willard High School, Long Beach, Cal.
University Schools, Cleveland, Ohio.
Women's Dormitory, U. of Rochester, Rochester, N. Y.
Trinity School, Wausau, Wis.

Never Split Seat Company
Dept. 137, Evansville, Indiana
Founded 1905
The Largest Manufacturers of Toilet Seats in the World.

The Finest Schools have "EBCO" *STEEL* PARTITIONS *—in the Toilet Rooms*



ASIDE from the fact that "EBCO" steel partitions are permanent and easier to keep attractive and clean, there is the important factor of sanitation.

The increasing crowded condition of schools imposes greater precaution against breeding places for disease germs in Toilet Rooms. The "EBCO," being solid steel, is impervious to moisture; has no crevices or other lurking places for germs, can't rot, won't rust, bend or break.

Today, more than ever before, you should consider the "EBCO" when building new or remodeling. Send today for our catalog.

THE D. A. EBINGER SANITARY MFG. CO.
186 Lucas Street Columbus, Ohio
"Manufacturers also of Ventilated Closets, Wash Sinks, Steel Partitions and Drinking Fountains."

A Board Member's View of School Business Management

A business man's reaction on several phases of school administration was presented at the recent convention of the National Association of School Business Officials at Toronto, May 20, by Mr. Lewis J. Coath, member of the Chicago board of education. Mr. Coath addressed the meeting immediately after the reading of a paper on the Chicago plan of handling teachers' pay rolls, read by Mr. Charles E. Gilbert, secretary of the Chicago board of education. Mr. Coath said in part:

We represent the business branch of the board of education of Chicago. Mr. Gilbert, our secretary, in reading his address which must have been interesting to many of you gentlemen and ladies who have problems equally as large as those we have to face, rather modestly refrained from telling you just how the board of education of Chicago succeeded in getting this highly systematized practise working in its offices.

After all that period of dealing with the various C. P. A.'s and efficiency experts and other "system" theorists who are promoting their own schemes, we arrived at the conclusion someone must have made a large cross mark on the fences of our railroad yards for others in their fields of endeavor because those passing by on the trains managed to get off and find us very, very easy victims. We passed all through that period of disorganization and spending the money of our taxpayers only to find ourselves in the usual boiler of hot water.

The system that our Mr. Gilbert presented to you to-day might permit me to offer a seed for each and every one of you to take home to your board members that I hope will take root and grow in your school system. The seed that I am anxious to plant is this: Develop within your own systems your own material, both men and women, who have already stood the test and have given the best years of their lives to your school organization. You can find just about as much good material as your organizations will require right under the roofs of your own offices.

Mr. Gilbert has been with the Chicago board of education for 36 years, starting at the bottom of the ladder. He has lived our problems, from the very earliest start up until the present time. Mr. Byrns, our present business manager, has been with our board of education 30 years, also starting at the bottom; he has lived the problems of the board in our city.

One city may differ from another, but there is no city different from its neighbor, large or small, when you come right down to the fundamentals of organization. Let us say that in considering any other business it is the man who has lived it who knows it; it is not the members of the board, because members of the board come and go, and superintendents come and go; some are good and some are bad. But it is the men who have given years of their lives in the school systems, who I see in this room, and, I am informed, have devoted their whole energies in this work.

I have met many gentlemen here in my three-days' visit who lead me to believe that each and every one of your boards might adopt the rule that Col. Edward B. Ellicott, the president of the board of education of Chicago has so successfully adopted, that has brought peace and harmony to our board of education for the first time in many years—namely, have confidence in your own people. Use the benefit of their years of experience, give them responsibility and back that responsibility. Do not criticize them when they make a little mistake—just charge it up to profit; remember, they will not make the same mistake again. Develop your own material, do not import it. Stand by it and your board of education, regardless of where you live, will dwell in the sunshine that we in Chicago are now enjoying.

There is another thing I must congratulate our leader, Col. Ellicott, upon—and let me say, I am sorry you do not know him the way we know him—he is not only human, he is all human—all of him, and that is the greatest asset in the world, either in public life or in big business. He holds confidence and respect for the men who are associating with him. We have tried to give the other fellow a chance in our organization, and those to whom we have given the chance have usually made good for us. Carry that home to your boards of education; let them experiment with it, and I know they will find it a very good policy.

Personally, I am very enthusiastic about these conventions. I have attended a number of conventions during my time on the board, and have also attended many of the N. E. A. conventions. I want to say to you ladies and gentlemen assembled here that we, from Chicago, have truly profited by this trip. I shall go back to our board of education and say, "There is one convention that you can well afford to encourage, and send our various executives to." We have four here this year; with your kind permission I will recommend sending ten next year. (Applause.)

I want to compliment you on the very constructive work you are doing. Another thing that impressed me was the real sincerity of your organization. The size of the organization means nothing.

I want to add that you have another work ahead of you. I think many of you are aware of it, because business men have vision. A certain piece of legislation is being promoted at the present time in Washington, well founded and well financed, which is making progress and demands watching and your attention, the pet project of the National Education Association of America—and I say frankly before each and every one of you, I have absolutely no respect for it, and am suspicious of its real purpose—namely the federal secretary of education, the man who may want to make your superintendent of schools an appointee for life and your superior, the man who wants to take your responsibilities and convert you into a human rubber stamp. That is the problem every one of you must give thought to. They are backed by millions, and you know as well as I that they are being supplied liberally and working fast.

If you have any respect for the business organization of your board and the children in your community and your taxpayers, then get into the times in which we live—namely, highly specialized times and let each man do the one thing that he is best fitted to do; let your superintendent of schools teach school; let your architect build buildings, and let your business manager be the real business manager. Do not allow any national association to reach that point where they can hand to the school system what was handed to the United States some years ago, namely the prohibition movement. Do not misunderstand me and consider that I am talking either for the wet or the dry side. We have watched these things come and go and know how these groups work, and I say to you right here and now that it should be the big problem with you for consideration and it is your sacred duty not to allow your board or your taxpayers to have the wool pulled over their eyes by superintendents of schools who want to further their own selfish ends. They are not competent; I never met a superintendent of a school whose judgment I would take for installing a $1500 bath-room in my own home because I am sure the darned thing would not work, if I followed his advice on any subject other than education. (Applause.)

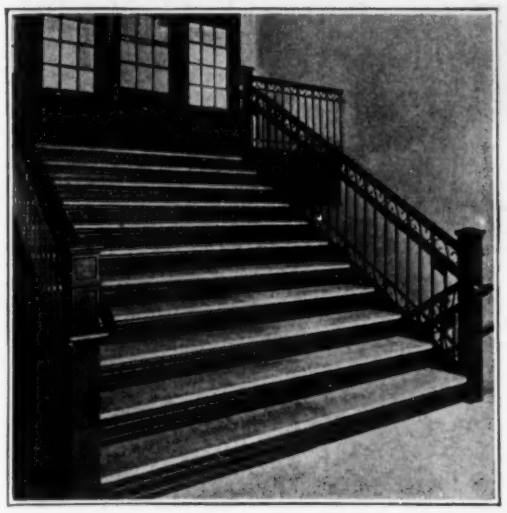
NEWS OF OFFICIALS

—Dr. Louis G. Schwab, for many years a member of the board of education of Cincinnati, O., died at his home in Cumminsville, on June 4th, after an illness of eight months. In addition to his service as a board member, Dr. Schwab was a member of the Union Board of High Schools, of which he was president, and was a director of the local city hospital. He was greatly interested in the progress of the city and in the advancement of the welfare of the city's children through the schools.

Services in honor of the doctor were held in all the city schools and resolutions of appreciation were adopted by the board of education.

—Colonel Amon A. Alling, president of the school board, presided at the dedication of the new Troup junior high school at New Haven, Conn. The speakers were Dr. A. B. Meredith, state commisioner of education, Principal W. H. Martin, a Protestant clergyman, a Catholic priest, and a Jewish rabbi.

For Permanent Economy



A true understanding of economy recognizes no "minor" features of building equipment, in the matter of serviceability. There should be but one standard of quality throughout, if maintenance cost is to be minimized.

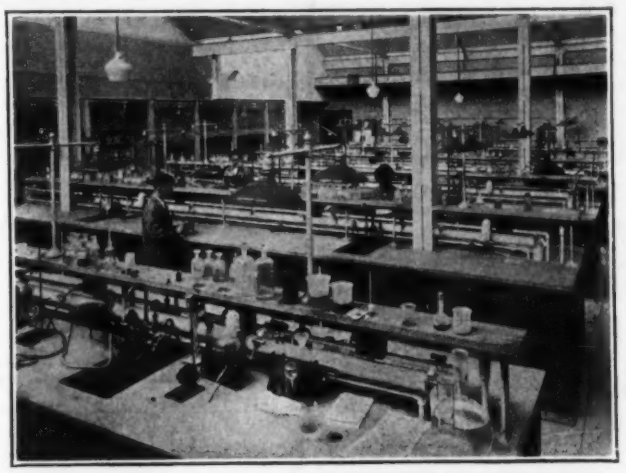
School equipment made of Alberene Stone—nature's own age-old product—has the "life" which recommends it for permanent construction with the utmost investment value. It will last as long as the building—and give the best of service, year after year.

Alberene Stone is hard, dense, close-grained, non-absorbent, non-staining—will not split or chip or scale or pit—is easily fabricated in any desired form—finishes to a satin-smooth surface that is easily cleaned and kept clean. And its color—a pleasing, even-toned light gray, blends harmoniously with any material used in surrounding construction and with any scheme of surface treatment. More than 40 years have proved Alberene Stone to be the pre-eminent material for the purposes pictured here and outlined below.

For Stair Treads and Landings

A special hard grade of Alberene is used for this purpose, with a surface which is smooth yet "toothed" and permanently non-slipping. Furthermore, Alberene Stone steps and landings resist the most intense heat — will not fracture and fail.

The Alberene Stone stairway above is in the Somerville, N. J., High School — J. N. Pierson and Son, Architects.



For Laboratory Equipment

For this purpose, Alberene Stone is a recognized standard—every important laboratory built in the past 20 years has used it. Chemically inert, acid-and-alkali resistant, non-absorbent, it is the preeminent material for table tops, shelving, sinks, fume hoods, peg boards, tanks—in chemical, physical and domestic science departments.

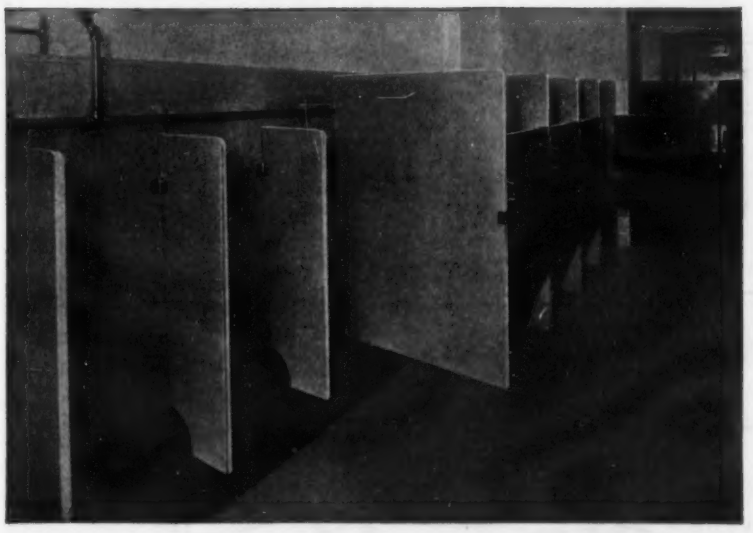
The Sterling Chemistry Laboratory, Yale University—pictured to the left — is completely equipped with Alberene Stone.

For Toilets, Urinals and Showers

The non-absorbent, non-staining properties of Alberene Stone, and the ease with which it can be fabricated and assembled without exposed metal in structures that are germ-proof, water-tight, odorless and sanitary, make it the material of all materials for this special class of work.

To the right are toilets and urinals of Alberene Stone in Montclair, N. J., High School — Starrett and Van Vleck, Architects.

Write for the Catalog and Detail Sheets showing the many applications of Alberene Stone in building construction and equipment.



ALBERENE TRADE BEST MARK STONE

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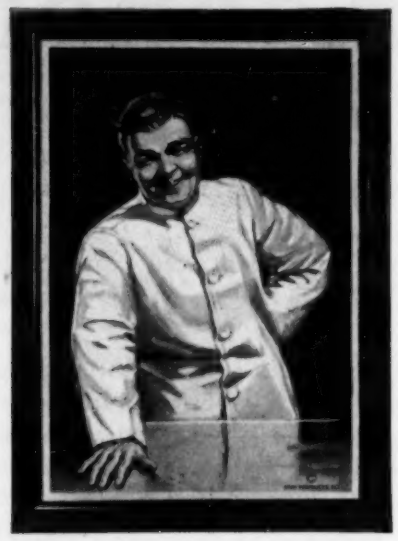
ALBERENE STONE

QUARRIED FOR OVER 40 YEARS **FOR LIFETIME SERVICE** NO ARTIFICIAL SUBSTITUTES

Meet *Sani-Terry*



He has a *message* for you

Sani-Terry's homely philosophy will help you build a bigger business. His service to you is free.

The sayings of Sani-Terry have been made up into a series of colored posters to hang on your walls, paste over your back bar or in your window. He talks about the goodness of the things you serve and the sanitary way you serve them.

These colored posters with the smiling face of Sani-Terry, filling your store with sunshine, cost you nothing. The sayings of Sani-Terry are all about your store. He doesn't even mention that Sani-Onyx and Sani-Metal are the best equipment for sanitary, lasting service. No advertising appears on these posters. This poster service is offered you free to help you build a better business. Take advantage of it now. Mail the coupon for the complete series of 26 Sani-Terry Posters. There is no obligation. Just your name and address brings you the complete series — without charge — now or later. Mail the coupon—let Sani-Terry help you build a bigger, better business. Do it now.

Sani Terry Says: A
cork always rises to the top of
the water. Our business is on
top, too, because everything we
serve is right—served right

This is a miniature reproduction of one of the 26 Sani-Terry Colored Posters. The full size is 14" x 28". Each one different. All unusual, witty and applying to your business. Mail the coupon for the entire series. FREE Now.

Sani-Onyx **Sani** Sani-Metal

Products Co.

20 Sani Building, North Chicago, Ill.

Selling Organization for Marietta Manufacturing Co. and Chicago Hardware Foundry Co.

SANI PRODUCTS CO.
20 Sani Bldg., North Chicago, Ill.

Gentlemen:
Please send me without cost or obligation your series of "26 Sani-Terry" Posters. I will use them to build my business.

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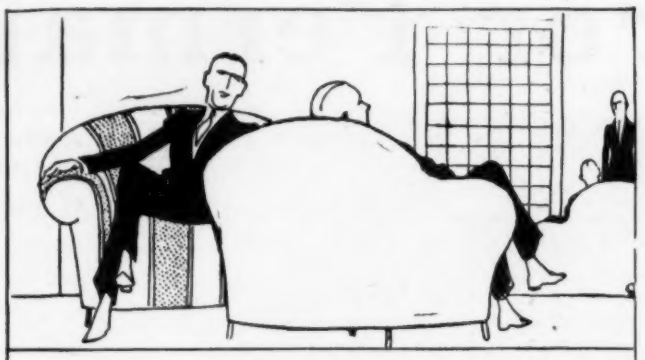
Address .....

City..... State.....



"That's No Problem, Jim!"

Not when you get each item of modern equipment for the preparation and serving of food from W. F. DOUGHERTY & SONS, INC., 1009 ARCH STREET, PHILADELPHIA. They've been *Manufacturers* and *Kitcheneers* since 1852, and in those seventy-four years they've done fine jobs from coast to coast. Dougherty's Engineering Department will give you splendid co-operation in working out details—and at no additional cost!

"Better drop DOUGHERTY a line today!"

RELIABLE! ECONOMICAL!
PRACTICAL! EFFICIENT!

Efficient Kitchens and Dining Rooms
require careful planning

Consult with us on your Kitchen and Dining Room needs. Take advantage of our information and long experience on special school equipment.

Regardless of the kindred information you may have on file, you will find the suggestions and data of our Engineering Department thoroughly worth while.

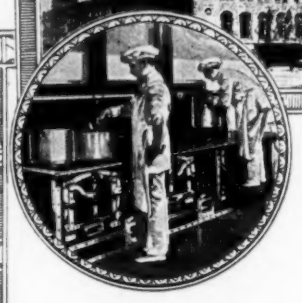
Layouts and estimates gladly furnished entirely without obligation.

The CLEVELAND RANGE Co.

519 HURON ROAD CLEVELAND, OHIO

EVERYTHING for THE DINING ROOM AND KITCHEN

J. A. HADLEY, *Manager*



Our Engineering Department under the direction of men qualified in Hotel, Restaurant and Cafeteria Equipment layouts, will help you with any food serving question you may have without obligation on your part.

The Commodore Perry Hotel

TOLEDO, OHIO

Named for the illustrious Commander of the Erie fleet during the war of 1812—has installed

Van Equipment for the Preparation & Serving of Food

and like the heroic endurance of Commodore Perry, Van Equipment was selected because of

"That Enduring Quality"

for which it is famous. Famous for its sturdy construction and for the thought given to each individual installation for efficient service and arrangement for economy.

Recent Contracts Obtained by VAN

Neil House, Columbus, Ohio
Fred Harvey System, Union Station, Chicago, Ill.
Hollenden Hotel, Cleveland, Ohio
Ambassador Hotel, Palm Beach, Florida
Columbus Hotel, Miami, Florida
Atlanta Athletic Club, Atlanta, Ga.

Write for our Catalog

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

Cincinnati

KANSAS CITY, NEW ORLEANS, CLEVELAND, ATLANTA, MUSKOGEE, BUFFALO, CHICAGO, LOUISVILLE, DETROIT, PITTSBURGH

ECONOMIES IN SCHOOLHOUSING

(Continued from Page 42)

chemistry, two in music, and one in millinery. It is doubtful if more than 30 feet of blackboard was required in any one of these six rooms. A reduction of investment of $700 might be figured in this case.

The data of Tables I and II are brought together in Table III. The interpretations already given allows this table to serve as a summary, presenting a total view of the situation where all types of rooms are considered.

Conclusions and Recommendations

After a generous allowance of blackboard is made in all types of rooms for teachers and pupils, in proportion to the extent of service as measured by the test of use, it may be concluded that 40 per cent of all the blackboards now installed in junior and senior high schools might be removed without imposing any handicap upon instruction. This, however, would be conditioned upon whether or not the reductions were made with proper recognition of the fact that the extent to which the blackboard is used depends almost entirely upon the subject taught. The investigation here reported included an analysis of use by subjects and is now being extended to include approximately 1,000 rooms in order that more reliable subject use may be subsequently reported.

In the 394 rooms reported upon, a net saving of $33,700 might have been effected without loss of service, thus making available funds for the housing of a considerable number of additional children or otherwise improving housing conditions.

Under modern methods of high school teaching the prevailing amount of blackboard is not only excessive and useless, but actually imposes a handicap upon teaching by preventing the installation of much needed tacking space and bulletin boards. This will be borne out by observing in any high school the amount of expensive blackboard covered with burlap, or pasted over with posters, exhibits and charts. It may further be noted that blackboards absorb much of the light often needed in many classrooms, thus impairing vision as well as giving to the rooms a dismal, depressing appearance.

The data presented in this article would seem to justify the following recommendations:

1. School officials contemplating new buildings should run an experimental test of the use to which blackboards are put under the system of instruction in their schools. If results agree substantially with those reported the following schedule of installation may safely be adopted.

2. In regular recitation rooms in junior and senior high schools 45 per cent of the rooms should have blackboard on the front wall only; 35 per cent of the rooms should have blackboard on the front and side walls, and in twenty per cent of the rooms blackboard on the front, side and rear walls.

3. In all special rooms, including physics, chemistry, biology, general science, music, drawing, typing, clothing, art, foods, sewing, and cooking, blackboards should be installed in accordance with the following schedule: In 80 per cent of the rooms ten feet of blackboard on the forward wall; in twenty per cent of the rooms twenty feet of blackboard on the forward wall.

4. In the interest of improving teaching conditions, lighting, and economy, it may be recommended that in buildings already constructed, a considerable portion of the blackboard might be removed for installation in new buildings and tacking board substituted in its place.

A number of studies applying the test of use to current standards in school planning have been completed or are under way. The results obtained all point to the possibility of materially reducing building costs, without impairing or limiting the educational utility of the plant.

TABLE III. Maximum Pupil Use of Blackboards in 394 Regular and Special Rooms in Junior and Senior High Schools

Items tabulated	Distribution of use of blackboard as measured by the maximum number of pupils at the blackboard at any one time during the week.							
	0	1-5	6-10	11-15	16-20	21-25	26-29	over 30	Totals
Number of Rooms	100	78	48	51	54	29	23	11	394
Running feet of blackboard space	3,348	3,571	2,270	2,736	3,043	1,659	1,410	695	18,732
Total number of pupils	0	234	384	663	972	667	644	337	3,901
Average blackboard space per pupil	.....	15.2	5.9	4.1	3.1	2.4	2.1	2.0	.....
Per cent the number of rooms is of the total	25.3	19.7	12.1	12.9	13.7	7.3	5.8	2.7	99.5
Cumulative number of rooms and per cent of total	.....	.....	.....	.....	.....	.....	.....	.....	.....
(a) With no students	100 25.3%	.....	.....	.....	.....	.....	.....	.....	.....
(b) With 5 students or less	.....	178 45%	.....	.....	.....	.....	.....	.....	.....
(c) With 10 students or less	.....	.....	226 57.1%	.....	.....	.....	.....	.....	.....
(d) With 15 students or less	.....	.....	.....	277 70%	.....	.....	.....	.....	.....
(e) With 20 students or less	.....	.....	.....	.....	331 83.7%	.....	.....	.....	.....
(f) With 25 students or less	.....	.....	.....	.....	.....	360 96.8%	.....	.....	.....
(g) With 26 students or over	.....	.....	.....	.....	.....	.....	394 99.5%	.....	.....

"Acid-acid everywhere, *and* never a drop *to* LEAK!"

DURIRON

Duriron is a solid cast metal alloy as resistant to corrosives as glass.

It requires no coating, lining, or "treating," being acid-proof entirely through its structure.

Duriron drain pipe and fittings, sinks, sink outlets, traps, drains, exhaust fans and similar equipment are now installed in thousands of high schools, new and old.

Higher in first cost, it is an essential economy in that it eliminates repairs, replacements, damage to building, and unsanitary conditions resulting from leaking acid.

Duriron is produced only by
The Duriron Company
Dayton, Ohio

INDEPENDENT SCHOOL DISTRICT NO. 27.

HARRIET P. LERCH, PRESIDENT
B. A. MIDDLEMISS, SECRETARY
P. W. BULLEN, TREASURER

T. R. DOUGHERTY, DIRECTOR
EDWARD C. BOLITHO, DIRECTOR
E. P. SCHAFER, DIRECTOR

ST. LOUIS COUNTY HIBBING, MINN.

April 3, 1926.

The Duriron Company,

Dayton, Ohio.

Gentlemen:

I am in receipt of your letter dated March 10th, regarding the Duriron pipe and fittings that were installed in the laboratories in our new high school.

The laboratories have been used continuously by both high school and junior college students for the past three years. This material has been very satisfactory and has eliminated a large maintenance cost, which is usually experienced in laboratory piping.

I do not hesitate in recommending Duriron pipe and fittings for such purposes.

Very truly yours,

INDEPENDENT SCHOOL DISTRICT NO. 27
By B. A. Middlemiss
Clerk

EIGHTH CONFERENCE OF RHODE ISLAND SCHOOL BOARDS

School board members from all Rhode Island cities and towns assembled in Providence on Friday, May 28, 1926, to attend the eighth semi-annual conference of the Rhode Island Association of Public School Officials. These meetings of the combined school committees of the state were held in the assembly halls of the Rhode Island College of Education and included morning and afternoon sessions in addition to a midday luncheon.

Mr. Everett C. Potter, chairman of the Cranston school board, formally opened the conference with an address of welcome. "As school board members from the different communities of the state of Rhode Island, it is our task to provide the means that are necessary to make the instruction in our schools of the highest order. As committee members we must see our problem and understand it. The time for guessing has long passed by. In the city of Cranston, where I reside, we are endeavoring to solve the problem of adequate accommodations by building and dedicating a new school structure for our children almost every year. In other parts of the state school boards are proceeding in a similar manner. Recent legislation raising the age of compulsory education has forced hundreds of children to remain in school for a longer period than heretofore and has necessitated the erection of additional buildings. We must not lag in our striving to provide our boys and girls with the necessary facilities."

In his message to members of Rhode Island school boards, Dr. Walter E. Ranger, Commissioner of Education, pointed out some of the salient needs of our schools at the present time. In part he said: "Public education is a permanent institution that will endure through the ages. For this reason school systems should not be subjected to sudden changes. Every school department must have its own organization and its own experiences. Therefore, it is neither wise nor profitable to attempt to imitate or emulate everything new which one may read or hear about. Similar to our courts, each community must decide upon its own policy.

"At present all over this great land of ours throngs of young men and young women are seeking to enter the colleges and universities. There is not sufficient room to admit them all. In fact, many of those who are seeking admittance to higher institutions of learning cannot profit from a college education. It would wrong and injure many of these young people to pursue the old standard college course. To care adequately for these youth we must provide other avenues for them to travel in the pursuit of their advanced education.

"There is today a host of agencies which are seeking to intrude upon our school schedule. Some of these agencies are propagating their own ideas rather than those ideas which would operate for the best interests of the schools. We are requested to observe special days and special weeks almost without number. Unfortunately it is absolutely impossible to correlate most of these special observances with the regular work of the schools.

"The election of school boards should be so organized that their existence will be almost continuous. Following election the absolute independence of the school committee is a necessity. As a sound business proposition every school committee should prepare and adopt a budget and attempt to follow this budget as closely as the welfare of the school system will permit. Such a procedure is only fair and just to those who are supplying the funds which are so necessary for the proper maintenance of our educational institutions."

The principal address of the morning was delivered by Mr. William L. Sweet, chairman of the Providence school board. The title of Mr. Sweet's speech was "The Organization of the Providence School Board under the Strayer System Act." In part he spoke as follows: "In that a more modern system of education might be established in the city of Providence, the Rhode Island State Legislature, at its 1925 session, passed the so-called 'Strayer System Act.' Under this legislation the former school committee of more than thirty members was replaced by a school committee of seven. When the new school committee assumed its duties it adopted a new set of by-laws in accordance with the recommendations of Dr. George D. Strayer of Columbia University. These recommendations were made by Dr. Strayer following a survey made by him of the Providence school system.

"Under this new set of by-laws the superintendent of schools is the chief administrative agent of the school committee. Moreover, these by-laws clothe the superintendent of schools of the city of Providence with considerable power. He is the actual administrator of the school system, for which he is held strictly accountable and responsible. The school board is representative of the public and responsible to the public. The superintendent of schools is assisted by a deputy superintendent of schools, an assistant superintendent of secondary schools, an assistant superintendent of elementary schools, an assistant of research and guidance, an assistant of vocational education and buildings. These assistant superintendents are required to make frequent reports to the superintendent. Other administrative officers under the superintendent are: A director of health and physical education, a director of music, a director of attendance and discipline, a director of manual arts, a director of household arts and a purchasing agent. It is the duty of the superintendent of schools to prepare and present the budget to the school committee. When approved by the school board it is forwarded to the city council. This can call for an appropriation not exceeding 35 per cent of the average amount raised by general taxation during the three preceding fiscal years.

"The school board meets regularly twice a month. Special meetings and conferences may be held at other times. Private conferences must be held from time to time for the protection of the persons involved. The capabilities of a candidate or a member of the department cannot be impartially discussed in an open meeting. There are no 'Star Chamber' proceedings at these conferences, merely open discussions. In the appointment of teachers first consideration is given to local candidates. Inasmuch as we cannot always grow from within, it will always make for the best interests of the school system to refrain from building a Chinese wall about our city.

"A building program which aims to provide for the needs of the future is now under way.

(Concluded on Page 156)

Your Department of Science

Deserves the Best

No. 9075 LINCOLN SCIENCE DESK

Kewaunee

Laboratory Furniture

If there is any department of school work in which it is absolutely essential to have the best in Laboratory Furniture, that is the Department of Science.

Better equipment always means more thorough work on the part of the instructor and more intelligent reciprocation on the part of the student. Instinctively, both teachers and pupils enjoy their work to a greater extent and profit more from it.

We illustrate only a few of the hundreds of designs of Laboratory Furniture, for the teaching of the sciences and arts, shown in the latest edition of the Kewaunee Book—the most complete volume on the subject of Laboratory Furniture for Schools ever published.

It contains 416 pages with 46 views of buildings and model installations and with some of the desks reproduced in natural colors. The book will be sent without charge, prepaid, to any instructor or official who replies, giving his position and using the stationery of the institution. Address all inquiries to the factory at Kewaunee.

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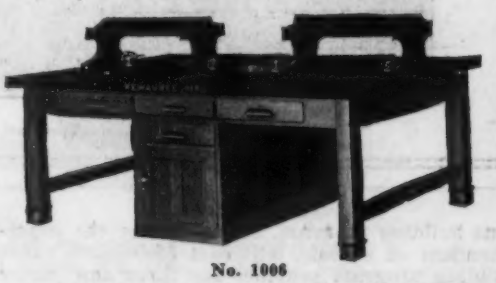
PHYSICS TABLE
A simple, popular Kewaunee design, with gas connections and a wood crossbar.

No. 14223
COMBINATION PHYSICS AND CHEMISTRY TABLE
This design is practical for use as a student's desk or in a private laboratory. Has two larger and eight smaller drawers and four cupboards. Very solidly constructed and finely finished.



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Where a complete work-table is desired, this will fill the need admirably.

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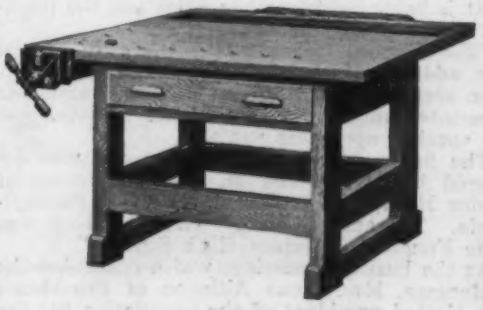
Accommodates 8 students working in sections of four. Each student has one small drawer exclusively. The top tier of drawers and the cupboards are used in common. A two-gang set of Hubbell polarized plugs and receptacles is placed at each end of desk.



No. 1938
SINGLE MANUAL TRAINING BENCH
A desk for individual use. Equipped with all-steel non-breakable vise.

School Cafeteria equipped with Gunn Lino Tables

Lincoln Consolidated School—Ypsilanti, Mich. Warren Holmes-Powers Company, Architects

GUNN

"LINO" Desks

Trademark Reg.

for Teachers

"LINO" Tables

Trademark Reg.

for Cafeterias
are now used in
many of our
FINEST SCHOOLS

No Breakage of Tops

Quiet and Pleasing

Sample of Top and Full Particulars on Request

THE GUNN FURNITURE CO.
GRAND RAPIDS, MICH.

(Concluded from Page 154)

This building program, as planned by the superintendent of schools, will cost $5,000,000. This building program provides for three new junior high school buildings and extensive additions to several of the grammar school structures. These buildings will be so constructed that they will insure efficiency of management and operation on the one hand and still be beautiful in architectural design on the other. The plans provide ample grounds around each building.

"Under the Strayer-System Plan, the Providence school board is, as it should be, absolutely independent of all other departments in the city. As it should be, the administrative officer of the school committee is the superintendent of schools. The members of a school committee may be justly compared to the directors of a corporation, and the school superintendent may be compared to the manager. Like the directors of a corporation, the members of a school board as individuals have no more authority than the citizen on the street. For this and other reasons individuals should be discouraged from approaching members of the school committee directly. Textbooks should be selected by the school committee, following the recommendation of the superintendent based on the judgment of a committee of selected teachers. Salaries should be fixed on the basis of a comparison of what is being paid in other cities and the financial condition of this city."

"The Platoon School" was the title of the first address which was delivered at the afternoon session. Mr. William S. Steere, assistant superintendent of the Providence schools, was the speaker upon this subject.

The final address of the afternoon was delivered by Mr. James M. Glass, Director of Junior High Schools for the State of Pennsylvania. The subject of Mr. Glass's speech was "The Function of Junior High Schools."

At the business meeting, which concluded the conference, Mrs. Anne Allinson of Providence was elected president of the association for the ensuing year. The other officers as named are: Honorary president, Dr. Walter E. Ranger, Commissioner of Education; vice-presidents, Samuel Lincoln, East Providence; Sumner Mowry, South Kingston; Mrs. G. E. B. James, Richmond; Dr. Clinton Wilbur, Foster; secretary-treasurer, Richard D. Allen, Providence; executive committee, John K. Fenner, Cranston; Mrs. Alice B. Wilson, Barrington, and Mrs. Myra B. Morse, Pawtucket.

CHATS DURING RECESS

At Council Bluffs, Iowa, 112 high school students, while the principal was absent for a day, participated in a "sneak." The school board and superintendent promptly disciplined the offenders. Thereupon R. F. Myers, principal, was hung in effigy. The school board itself split on the issue. Those voting to uphold Principal Myers' policy were J. R. Day, J. A. Williams, Mattie Harl and Henry Peterson. Opposed to Principal Myers were President McMillen, Thomas Davies and Edwin Probst.

—Some school boards do insist upon being orderly and decorous. The school board of district No. 16, Canon City, Colorado, employed two deputy sheriffs in order to maintain proper order at a recent meeting.

—At Wichita, Kansas, the recall of H. B. Damon, a member of the school board, is suggested. He is charged, according to newspaper reports, with having made 36 irritating and meaningless speeches, delaying the regular business of the board. One meeting had to be extended until 2 o'clock in the morning.

—Henry Ford has bought, unknown to the townsfolk of Sterling, Mass., three stones, including the cornerstone of the country school which Mary Sawyer attended, and which has been immortalized in verse in "Mary Had a Little Lamb." The stones were sold at a price of $5 each.

—The board of education of Cedar Rapids, Iowa, decided upon a rule whereby girl high school graduates were not allowed to wear dresses valued at more than $15. When a protest against this rule came from the poorer parents the board rescinded it.

—A New York City district superintendent holds that soft speech is a teacher's biggest asset. Perhaps, the irate mother who comes to the schoolhouse for a fracas could profit by the injunction to temper her voice!

—Children of migratory farm families have little time to attend school according to an investigation made by the National Child Labor Committee in Denver, in 1925. Children of families coming into Denver late in the fall of 1924 missed more than half the entire school year, and three-fifths of the children were retarded in their grades.

—The members of the school board of Genesee, Idaho, purchased, in their private capacity, the local opera house for the use of student basket ball games and dances. Officially the board was too cramped for funds to engage in the project. Certainly some school board!

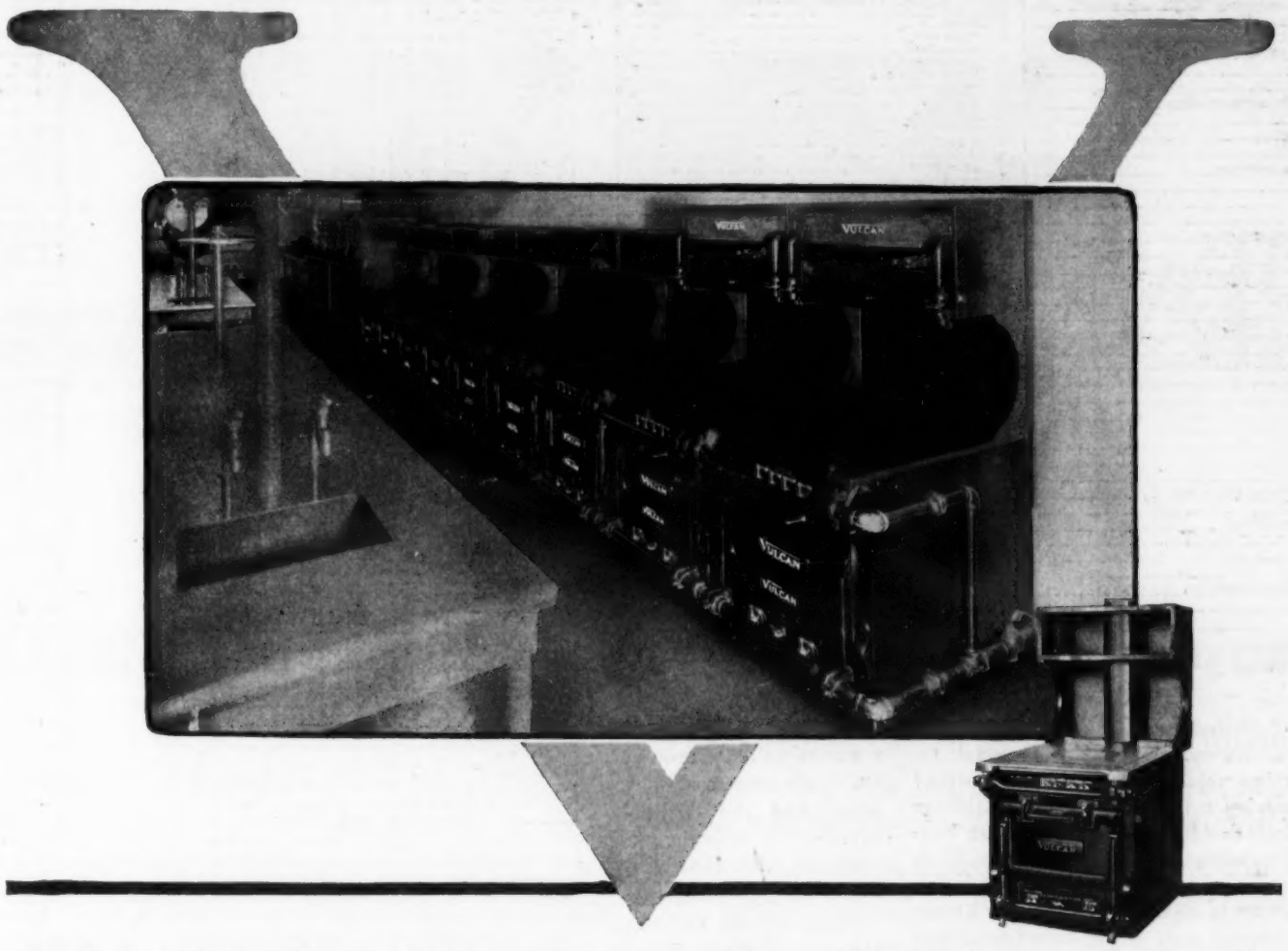
Weeding Out School Fraternities

President George H. Jones of the high school board at Oak Park, Illinois, recently made a public statement regarding the effort made to rid the schools of fraternities and sororities. The experience of the board has been that short time suspension of pupils for belonging to secret societies was not effective. When a number of boys were suspended recently, attorneys appeared and asked for reinstatement.

"They proposed," said Mr. Jones, "that if the board would immediately reinstate the suspended members they would—first, turn over names of other students they said belonged to fraternities; second, deliver to the board the charters of all fraternities existing in our high school; third, get an agreement from the headquarters of the high school fraternities that no more charters would be issued to members of our school. The board took up the matter and replied as follows:

"The board has given very careful consideration to the matter under discussion tonight relative to the request of the committee of parents in regard to the immediate re-instatement of the suspended students. We have unanimously come to the conclusion, based on the best information obtainable, that such action would be impossible, as it would not accomplish the desired end. As a matter of fact, the experience of other schools has been that where boys have been taken back after short suspension the results have not been beneficial either to the suspended pupils or to the school."

—The cornerstone of the new elementary school at Cliffside Park, N. J., was laid on May 29th. Mr. James W. Mahoney was in charge of the exercises, while Mr. H. F. Goemann, president of the school board, made the principal address. Addresses were also made by Mr. Mahoney, Mr. George B. Wheeler, Mr. Washington Irving Bray, Mr. James M. Akin, Mr. C. E. Velsey, and Mr. G. F. Hall.



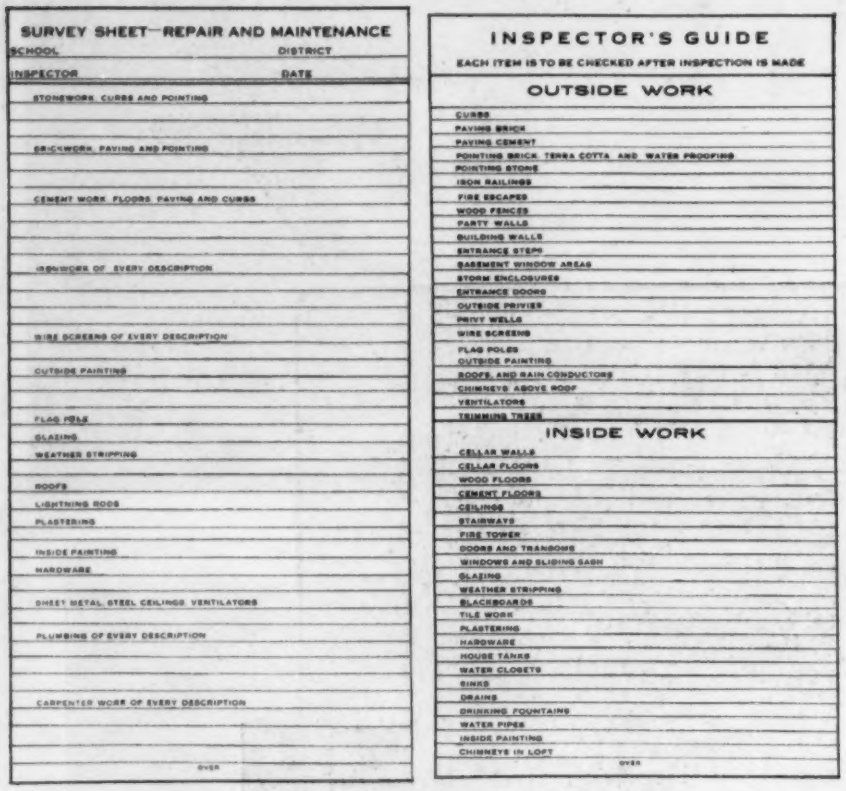
The Federal Reserve Bank *Played Safe*

THEY took no chances when equipping the kitchens of the tremendous Federal Reserve Bank Building in New York. Careful analysis of the cooking requirements resulted in the installation of Vulcan Hot-Top Gas Ranges. There are reasons. Get them from your local gas company or kitchen equipment dealer, or write us today. Standard Gas Equipment Corp., Vulcan Division, 18 East 41st Street, New York. [Pacific Coast Distributor—Northwest Gas & Elect. Equipt. Co., Portland, Los Angeles, San Francisco.]

VULCAN
GAS HOT TOP RANGES

Annual School Building Repairs

(Concluded from Page 53)



SURVEY SHEET—REPAIR AND MAINTENANCE

SCHOOL DISTRICT

INSPECTOR DATE

STONEWORK, CURBS AND POINTING

BRICKWORK, PAVING AND POINTING

CEMENT WORK, FLOORS, PAVING AND CURBS

IRONWORK OF EVERY DESCRIPTION

WIRE SCREENS OF EVERY DESCRIPTION

OUTSIDE PAINTING

FLAG POLE

GLAZING

WEATHER STRIPPING

ROOFS

LIGHTNING RODS

PLASTERING

INSIDE PAINTING

HARDWARE

SHEET METAL, STEEL CEILINGS, VENTILATORS

PLUMBING OF EVERY DESCRIPTION

CARPENTER WORK OF EVERY DESCRIPTION

OVER

INSPECTOR'S GUIDE

EACH ITEM IS TO BE CHECKED AFTER INSPECTION IS MADE

OUTSIDE WORK

CURBS
PAVING BRICK
PAVING CEMENT
POINTING BRICK, TERRA COTTA AND WATER PROOFING
POINTING STONE
IRON RAILINGS
FIRE ESCAPES
WOOD FENCES
PARTY WALLS
BUILDING WALLS
ENTRANCE STEPS
BASEMENT WINDOW AREAS
STORM ENCLOSURES
ENTRANCE DOORS
OUTSIDE PRIVIES
PRIVY WELLS
WIRE SCREENS
FLAG POLES
OUTSIDE PAINTING
ROOFS AND RAIN CONDUCTORS
CHIMNEYS ABOVE ROOF
VENTILATORS
TRIMMING TREES

INSIDE WORK

CELLAR WALLS
CELLAR FLOORS
WOOD FLOORS
CEMENT FLOORS
CEILINGS
STAIRWAYS
FIRE TOWER
DOORS AND TRANSOMS
WINDOWS AND SLIDING SASH
GLAZING
WEATHER STRIPPING
BLACKBOARDS
TILE WORK
PLASTERING
HARDWARE
HOUSE TANKS
WATER CLOSETS
SINKS
DRAINS
DRINKING FOUNTAINS
WATER PIPES
INSIDE PAINTING
CHIMNEYS IN LOFT

OVER

FORM I.

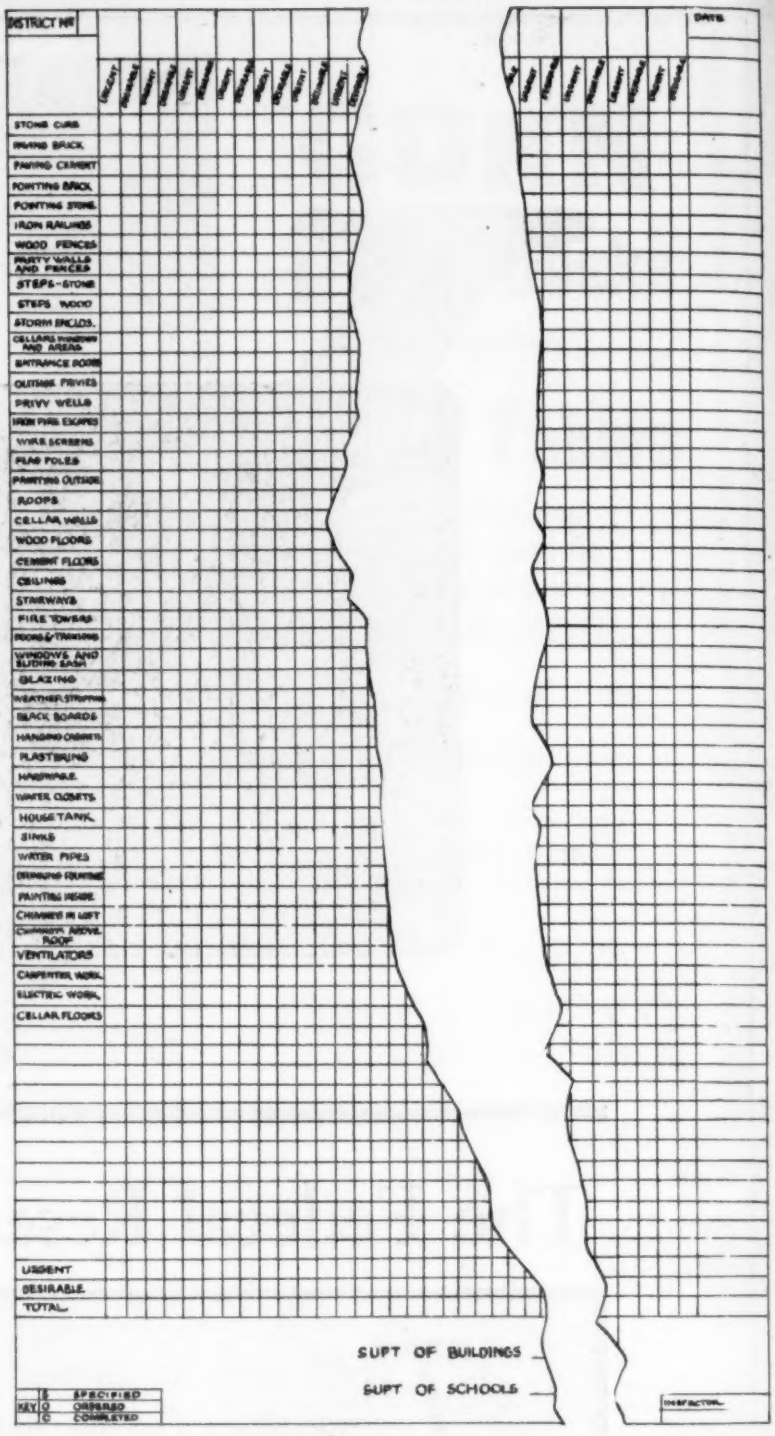
The city of Philadelphia has for many years maintained a thorough system of annual repairs, which has made it possible to continue in efficient service a large number of buildings erected during the last half of the last century. The Philadelphia plan is simple. Each spring, in February or March, the expert building superintendents of the Building and Repair Department inspect each of the school buildings in the city. The inspection is complete and thorough, beginning with the roof and ending with the walks, fences, and playground apparatus. Every room and every nook and corner in each building is completely inspected, and considerable attention is paid to the mechanical equipment, the plumbing and sanitary apparatus, etc.

Form I is used for making memorandums, and where necessary, further complete details are recorded separately. After a building has been thoroughly inspected, the items are divided into two classes: those which are considered absolutely necessary, and those which are considered desirable. An estimate is made of the cost of each necessary repair item and of each desirable repair item and these estimates are tabulated on large sheets.

Form II is a large sheet which contains space for the necessary and the desirable repairs on fifty-four buildings. The sheet measures 27" by 34" in size and permits at a glance to determine not only the necessary expense and the desirable expense, but also the total costs for each type of repair.

After all the buildings have been inspected the entire recommendations are gone over by Mr. J. D. Cassell, superintendent of buildings, and a schedule for work is formulated for the summer vacation months. The essential repairs are invariably taken care of and a program of desirable repairs is worked out within the limits of the appropriations available.

The plan has been in use for a considerable number of years, and has made it possible for the city of Philadelphia to keep its plant in excellent condition at all times, and to avoid those major rebuilding operations which are the result of neglect and carelessness, and which show themselves in run-down conditions of buildings.



DISTRICT NO

DATE

STONE CURB
PAVING BRICK
PAVING CEMENT
POINTING BRICK
POINTING STONE
IRON RAILINGS
WOOD FENCES
PARTY WALLS AND FENCES
STEPS—STONE
STEPS WOOD
STORM ENCLOS.
CELLARS WINDOWS AND AREAS
ENTRANCE DOORS
OUTSIDE PRIVIES
PRIVY WELLS
IRON FIRE ESCAPES
WIRE SCREENS
FLAG POLES
PAINTING OUTSIDE
ROOFS
CELLAR WALLS
WOOD FLOORS
CEMENT FLOORS
CEILINGS
STAIRWAYS
FIRE TOWERS
DOORS & TRANSOMS
WINDOWS AND SLIDING SASH
GLAZING
WEATHER STRIPPING
BLACK BOARDS
HANGING CABINETS
PLASTERING
HARDWARE
WATER CLOSETS
HOUSE TANK
SINKS
WATER PIPES
DRINKING FOUNTAINS
PAINTING INSIDE
CHIMNEYS IN LOFT
CHIMNEYS ABOVE ROOF
VENTILATORS
CARPENTER WORK
ELECTRIC WORK
CELLAR FLOORS

URGENT
DESIRABLE
TOTAL

SUPT OF BUILDINGS
SUPT OF SCHOOLS

KEY S SPECIFIED O ORDERED C COMPLETED

INSPECTOR

BUILDING'S REPAIR CHART

THE BOARD OF PUBLIC EDUCATION — PHILADELPHIA

FORM II.

The Purchase, Storage, and Distribution of Supplies

(Continued from Page 71)

the coming fiscal year. If these supplies are approved by the superintendent, or other administrative officer to whom such approval is delegated, the purchasing department should then furnish the estimated cost of the same, and the compilation of these figures, together with salaries, maintenance, capital outlay, debt service, etc., should form the official budget.

In this manner an amount of supplies, represented for convenience in dollars, is budgeted for each school. If during the year any administrative officer, supervisor, or principal desires to change the character but not the value of supplies not already bought, he should be permitted to do so.

A distinction should be made between a budget and a requisition. A budget is an estimate of the needs of a department or activity for a given period of time, usually a fiscal year. A requisition is a request for the purchase and delivery of all or a portion of the supplies previously budgeted.

Requisitions from all departments or activities should go first to the administrative head for approval. They should then be passed on to the financial officer, or some one delegated by him to supply the information, who should indicate on the face of the requisition the amount budgeted for the particular department, school, or activity making the requisition, the amount expended or expense incurred on behalf of the requisitioning party, the balance available, and the estimated cost of the supplies requisitioned.

The information thus assembled, compiled and tabulated should be presented to the board of education, and if the requisitions are found to be within the budget allowances they should be, and usually are, approved for purchase and passed back to the purchasing department with authorization to purchase.

A satisfactory form of requisition is illustrated in Fig. 1.

It is advisable to purchase supplies in as large quantities as practicable for the benefit of the lower prices given on large quantities. On orders of any size bids should be taken. The bid form in Fig. 2 has been used with good results.

After the bids have been received and the lowest and best bid determined, a purchase order should be filled out and sent to the vendor whose bid has been accepted.

If the goods are to be delivered direct to school buildings, five copies of the purchase order (Fig. 3) should be made out. The original

(Continued on Page 161)

Peterson Furniture
for Laboratory and Library

Designed Right and Built for Service

The experience of thirty-five years of specialization is embodied in the design and construction of Peterson Furniture for the laboratory and library. Thirty-five years of progress—years devoted to one ideal—that ideal of quality and service resulting in a growth from a work bench in a single room to a most modern woodworking plant covering sixty thousand square feet and equipped with the best machinery and methods known to the craft.

LIBRARY FURNITURE

Peterson's Standard Library Furniture meets all the requirements of a school library and combines beauty of design with the highest type of construction to insure a long useful life of service. We also manufacture furniture of special design when necessary. Mail floor plans of the rooms you wish to furnish and we will be pleased to send blueprints, specifications and estimate. This service is without cost or obligation.

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Peterson's Laboratory Furniture commands a leading position in schools throughout the country. Years of specialization has supplied the knowledge and skill to design and build laboratory furniture giving entire satisfaction. Where quality and dependable furniture counts you will find Peterson Furniture. A wide range of sizes and styles enables you to make selections most suitable for your particular requirements.

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Correct in design, quality construction and a dependable service recommend Peterson Furniture as standard for your schools.

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Bradley Washfountains

PROMOTE BOTH CLEANLINESS AND SANITATION | REQUIRE BUT A MINIMUM OF JANITOR SERVICE

"The First Cost is the Last Cost"

Bradley Washfountains represent a great advance in modern washroom equipment. They promote both cleanliness and sanitation, are self cleaning and require but a minimum of janitor service.

And Bradley Washfountains are most economical. Their use reduces the number of fixtures required. They save floor space, use less water, and permit the use of fresh tempered water at all times.

For use in Schools, Colleges and Universities and in every type of public lavatories, there is no fixture equal to the Bradley Washfountain in utility, durability and beauty and in economy of operation and maintenance.

Write for Catalog

Bradley Washfountain Co.

Milwaukee, Wisconsin

A FEW SCHOOL INSTALLATIONS

Crane Technical High School,
Tilden High School,
Schurz High School,
Austin High School,
Morgan Park School,
Chicago, Ill.
Garvey School,
Los Angeles, Calif.
Theodore Roosevelt Junior and Senior High School,
Amsterdam, N. Y.
Marquette University,
Continuation School,
Milwaukee, Wis.
Fortuna Grade School,
Fortuna, Calif.
Washington Ave. High School,
Canton, Ohio
High School,
Green Bay, Wis.
Fond du Lac High School,
Fond du Lac, Wis.
South Omaha High School,
South Omaha, Nebr.
Woodland Union High School,
Woodland, Calif.
Old Government School,
Oneida, Wis.
Great Neck Prep. School,
Great Neck, L. I.
High School,
St. Charles, Ill.
AND MANY MORE.

Century Drinking Fountains for schools

Children need pure, refreshing drinking water free from all danger of contamination

The Century patented bubbler heads with interior concealed regulators supply the right amount of water ***without waste***, an important consideration to school officials. The water emerges from the bubbler head in perfect bubbles never too high or too low. The Century built self-closing stop cocks are positive in action.

Group Fountains Are Both Practical & Economical

The fountain pictured here is our No. A-23 with four bubbler heads. It can also be furnished in smaller sizes with two and three bubbler heads.

The basin is white porcelain enameled, with roll rim. All exposed fittings are brass, heavily nickel plated. The water is supplied to the bubblers through a 3/8" galvanized supply pipe or a nickel plated brass supply pipe can be furnished at a slightly higher price.

We manufacture a complete line of drinking fountains for schools. Send for our new catalogue which gives complete specifications and prices.

Century Brass Works, Inc.

309 N. Illinois St. Belleville, Ill.

MURDOCK WATER SERVICE

Patented Anti-freezing

Murdock

Outdoor Bubble Font made of

BRONZE
BRASS
IRON

For ages these three metals have been used in outdoor service. They are everywhere accepted because of their ability to withstand exposure and abuse.

Lasts a Lifetime
for
School Yards -- Playgrounds

Write for Booklet "What to Know About Outdoor Drinking Fountains."

Also dependable, long life Drinking Fountains and Bubbler Heads for School Buildings.

THE MURDOCK MFG. & SUPPLY CO.
CINCINNATI, OHIO

Makers of Outdoor Water Devices Since 1853

The New Model Puro Liberty Drinking Fountain Represents the Greatest Advance Made in Drinking Fountain Construction.

This Fountain Was Designed Especially for Use in Schools.

All Puro Fountains are made of solid bronze cast metal from heavily designed patterns. No breakage possible. Nothing to crack, chip or become unsightly. An installation once made will last a lifetime. Puro Fountains are highly finished, and heavily nickel plated. They are always clean and inviting and do not require the continual care of enameled goods.

Write today for Our Catalog.

Made only by the

PURO SANITARY DRINKING FOUNTAIN CO.
Haydenville, Mass.

The NEWEST Improvement in FOLDING CHAIRS Construction

ALL-METAL CONSTRUCTION
(Except seat and rubber leg-tips)

CLARIN CHAIRS

Meet Every School Requirement

Comfort, good looks, light weight, compactness, ease of setting up and folding—are all the desirable features embodied in Clarin Chairs plus strength and durability to a degree hitherto unknown in a folding chair. This unequalled strength and durability is the result of scientific design and a new principle of construction. The frames of Clarin Chairs are made entirely of steel rolled into our patented tubular-channel form, with all stationary joints permanently welded.

LIGHT IN WEIGHT — QUIET. Clarin Chairs weigh only 8½ pounds—a pound more than the average wooden chair and 6½ pounds less than the average steel chair. Quietness in setting up and use is secured through the rigid tubular-channel construction and the use of rubber tips on legs.

LOW IN COST. The cost of Clarin Chairs is but a trifle compared with the long and satisfactory service which they are guaranteed to render. The durability eliminates frequent replacements and the first cost is a little more than the cheap wooden chair and less than wooden chairs of better grade.

BEAUTIFUL. Clarin Chairs are simple in design, free from useless ornamentation and possess a beauty which is in harmony wherever they are used. They are made in a wide variety of finishes with seats of wood, leatherette or tapestry in harmonizing shades.

EASILY SET UP AND FOLDED. A child can set up or fold a Clarin Chair easily and quickly without danger of pinching fingers. Awkward stooping or fumbling is entirely unnecessary.

VERY COMPACT. Clarin Chairs fold to a thickness of only 1¼ inches, requiring a minimum storage space when not in use. They fold absolutely flat and can be easily stacked.

FIVE-YEAR GUARANTEE. The steel frame of Clarin Chairs is guaranteed for a service of five years or more and will be replaced if damaged or unsuited for service at any time through defective workmanship or material.

Write or Wire us for a sample Clarin Chair to be sent on approval.

CLARIN MANUFACTURING CO.

2448-2454 N. Crawford Ave., CHICAGO, ILL.

(Continued from Page 158)

copy should be sent to the vendor, one copy should be filed in the purchasing office, one for the permanent file of the school or department making the requisition, one to be verified by the requisitioning official and returned to purchasing office, and one that may be marked "Shortage" by the requisitioning official in case the entire order should not be delivered at one time. In the case of supplies purchased for a central warehouse to go into stock on hand, only three copies of the purchase order are necessary.

Upon receipt of the goods at the central warehouse or the verification of the purchase order by the official making the requisition, the invoice should be approved by the purchasing agent and placed in line for payment.

THE BOARD OF EDUCATION
---*REQUISITION*---

(Note: No requests honored unless made on this blank.)

Lakewood, O. _____ *192*__

The following supplies are needed in my department: 3/1/26

Materials required	SCHOOL OR DEPARTMENT

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person, or a large and many-headed system it should never be forgotten that the primary function of the school system is the training of future citizens and that any economy which hinders the proper functioning of the system is false economy.

BALTIMORE PUBLIC SCHOOL CAFETERIAS

(Concluded from Page 68)

splendid arrangement has been entered into with some of the cafeterias, whereby a representative of the bank calls daily at the school for the money to be deposited.

In order to safeguard the finances of the cafeteria, an arrangement has been made to bond the persons handling money, and as an additional precaution, burglar and hold-up insurance has been taken out. A profit and loss statement is rendered each month to the director of vocational education and the supervisor of home economics education. At the end of each school year the books of the cafeteria are audited by a certified public accountant.

Cooperation with Other Departments

It has been possible to arrange for close cooperation between the school cafeterias and the commercial departments for all business transactions. In certain instances, close cooperation is secured between the home economics department and the cafeterias, in that large quantity cookery is possible by having an outlet for its sale through the regular cafeteria channels.

General supervision of the lunchroom has been most satisfactorily carried out through organized student units. Each student unit is under the direction of a member of the school faculty. The school faculty, therefore, has been closely in touch with lunchroom discipline and student organization. It has been necessary to have a clearly defined educational campaign in order to have students select the proper kinds of food. All departments of the school have cooperated in this work.

The school cafeteria offers a splendid opportunity for instruction in the right food habits, promotes sociability, and is valuable as a business proposition. It provides for the child more wholesome food than would be possible without the proper kind of a cafeteria. Training in good health habits is emphasized as well as training in the proper selection of food.

ASSOCIATION ELECTIONS

—O. H. Plenzke of Menasha, was elected president of the Wisconsin City Superintendents' Association. F. G. Bishop of Two Rivers, continues as secretary-treasurer. L. R. Creutz of Monroe and C. A. Rubado of Plymouth were elected directors.

—W. T. Heilman, principal of the Columbus normal school, was elected president of the Central Ohio Schoolmasters. H. P. Swain, principal of the Mount St., junior high school, was elected secretary-treasurer.

—The high school teachers' association of New York City reelected William E. Lascher of the Erasmus Hall high school as its president. The other officers chosen were: Miss Grace Helene Miller, Girls' Commercial High School, vice-president, reelected; George S. Wilder of Erasmus Hall High School, secretary, and Loring B. Mullen, Girls' High School, treasurer, reelected for his twenty-first term. Members of the executive committee elected at the meeting included Raymond L. Chamberlain of De Witt Clinton H. S., Alexander L. Pugh of High School of Commerce, Fred C. White of Morris H. S., Lolabel Hall of Bay Ridge H. S., and Martin L. Wilson of James Monroe H. S. Miss Harriet Hale of Morris H. S., the retiring secretary, was tendered a vote of thanks for her services.

—The American Library Association Committee on Salaries, Insurance, and Annuities has compiled statistics showing the salaries of junior and senior high school libraries in 1925-1926. The data includes number of librarians, the minimum and maximum salaries paid for librarians, professional and non-professional assistants, and the salaries paid by public library or school board.

In Altanta, Baltimore, Berkeley, Birmingham, Bridgeport, Chicago, Cincinnati, Denver, Detroit, Duluth, Erie, Evansville, Flint, Gary, Kansas City, Mo., Los Angeles, Louisville, Milwaukee, Minneapolis, New York, Newark, Oakland, Philadelphia, Pittsburgh, Rockford, San Diego, Somerville, Spokane, Tacoma, Trenton, Washington, Yonkers, and Youngstown, the salaries are paid by the school boards. In Grand Rapids and New Bedford they are paid jointly by the school board and the public library. The highest minimum salary is $2,450 and the lowest is $800. The highest maximum salary is $3,600 and the lowest is $1,500.

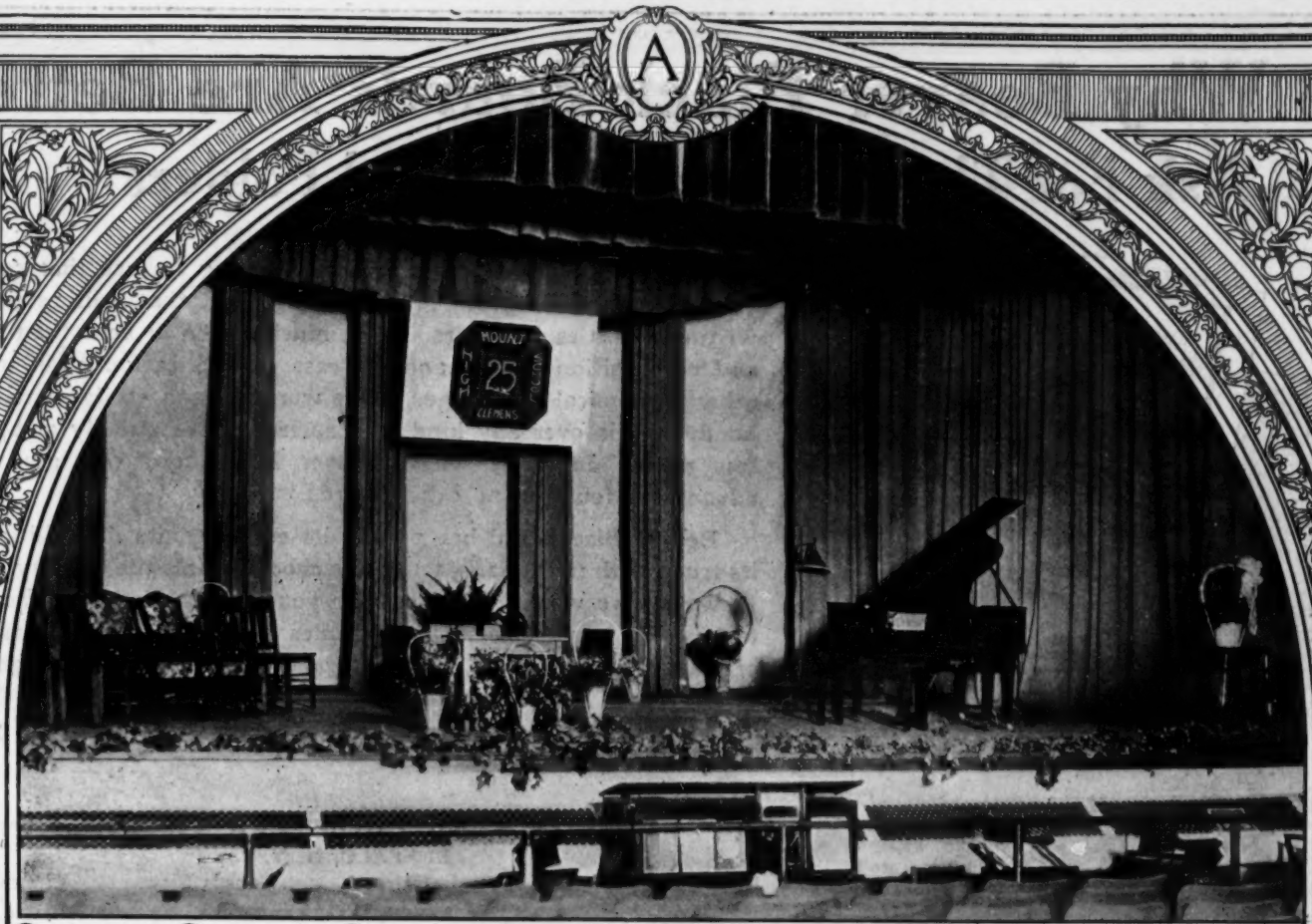
SCHOOL LEGISLATION IN CALIFORNIA

The legislative outlook of California contemplates, (1) a reorganization of the state school system, (2) improved teacher training, (3) codification of the state school laws, (4) retirement salary law, (5) teacher tenure, (6) teacherages, and (7) school cafeterias.

Some of these proposals have been before the previous legislatures without finding acceptance. The question whether the state board of education shall be an elective or appointive body is to be thrashed out to a finality. The present teacher tenure law has been questioned on constitutional grounds. A court has declared the law discriminatory. The decision has been appealed to a higher court but the educators of the state believe that an amendment rendering the law constitutional will have to be provided.

At the last session of the legislature a bill providing for teachers' homes, or teacherages, did not become a law. It aimed to authorize school boards to rent, purchase, or build structures for the housing of school employees. A bill providing for cafeterias met with a similar fate. This bill provided that at least one meal per day might be furnished to pupils attending the public schools at actual cost.

Among the constitutional amendments to be offered is one which raises the salary of the state superintendent of public instruction from $5,000 to $8,000 per year.



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BEAVER BLACKBOARD

TWO COLORS – BLACK AND GREEN

SCHOOL BUILDING MAINTENANCE

(Concluded from Page 44)

that the janitor is entitled to additional compensation on an hourly basis. For parent-teacher association meetings and similar activities, such as plays, operettas, etc., for which no fee is charged for the use of the building a yellow form is used. It is exactly the same as the pink blank (Form K), except that it is signed by the principal. It is delivered to the janitor and he makes out his time on the reverse side. If a stage electrician or other help is needed, they fill out the same form presented by the head janitor. For affairs for which a rental fee is charged, the Form K is used and the parties who have used the building come to the main office or mail a check *before* they get the ticket and permit. This works well, as it eliminates the necessity of the office sending a bill and *collecting it*. This form is used for the rental of auditoriums, gymnasiums, and other departments of the schools for "feeable" affairs. It is very important that the school board look into this outside use of school buildings and take measures to prevent abuses. While it is splendid to have schools as community centers, it is another thing to have buildings abused and put out of serviceable condition at the expense of the taxpayers at large. It would surprise some board members to learn of the things that sometimes go on, and the superintendent of buildings cannot always be visiting all buildings watching such things.

SCHOOL .....

W.O.	Item	Labor	Material	TOTAL

FORM N.

For the presenting of monthly and annual reports to the board of education of work done, a neat and easily prepared report may be had if a form something like Blank N is used. The letters "W.O." stand for work order, including both B-orders and notes. The standing accounts are listed first and then the completed B-orders. A separate sheet is used for each school.

Under "Item" is written a short, condensed description of the job. The voucher Form O is customary. All accounts must come in either written on such a form or attached to it, properly sworn to. The voucher is acted upon by the chairman of the finance committee of the school board and, if passed, the clerk makes out the warrant. The voucher is receipted when the warrant has been received and returned to the clerk. Pay checks are handled in the same manner, except that the voucher is made out by the office.

Index cards for B-orders are prepared and filed both by the school buildings and chronologically. (To be concluded.)

Date	Job No.	Description of Work

FORM P. INDEX CARD FOR B ORDERS.

$ _____ No. _____

Account of

_____

Date of Account _____, 192
Presented _____, 192
Allowed _____, 192
Date of Order Issued _____, 192

APPROVED:

_____
Chairman Finance Committee

RECEIVED Warrant for amount of within Voucher, this _____ day of _____, 192

I hereby certify that all computations, extensions and additions have been carefully examined and are correct, and that none of the items have been heretofore paid or included in any prior voucher.

_____
Clerk Board of Education.

FORM O. VOUCHER JACKET.

The Board of Education of the City of Topeka

To _____ Dr.

192 ...

State of Kansas, Shawnee County, ss.

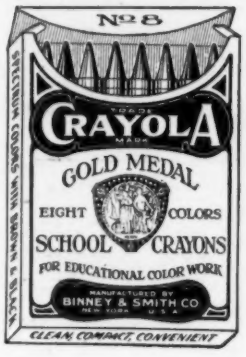
I do solemnly swear that the foregoing account is just and correct; is due, and remains unpaid; that the charges thereon are the legal or ordinary charges for such _____, dollar for dollar. So help me God.

_____

Subscribed in my presence and sworn to before me, this _____ day of _____, 192

_____

FORM O. INSIDE OF VOUCHER.



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"ANTI-DUST" Dustless Crayons
"ATLANTIC" White Chalk Crayons
"AN-DU-SEPTIC" Dustless Crayons

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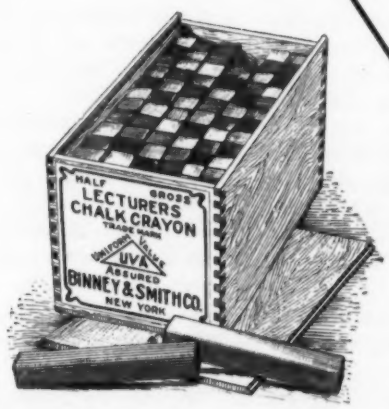

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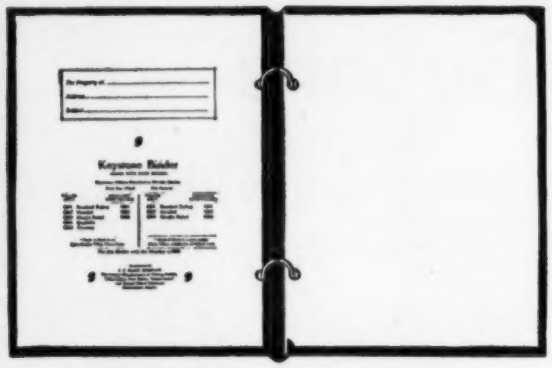

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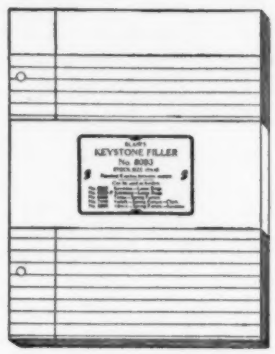

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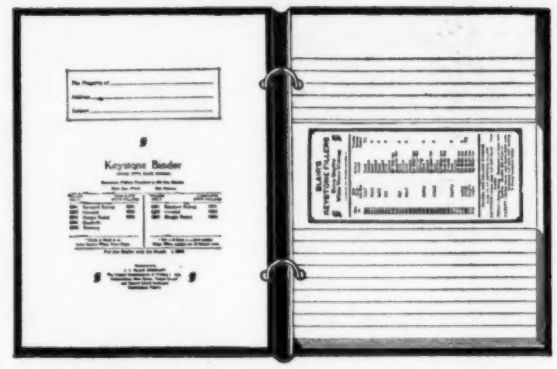

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J. C. BLAIR COMPANY

SEATING ARRANGEMENTS IN THE CLASSROOM

(Continued from Page 46)

tion of pupils are in the glare area. Unless experience has conclusively proven the contrary, it would seem that the probability of pupils interfering with each other and the difficulty of traversing these saw-tooth aisles would be greater rather than less than in the traditional arrangement. This plan is, of course, not adapted for "combination desks" in which the seat is attached to the desk behind nor could it be used for chair-desk which can be entered only from the left side.

Figure 9 represents the usual auditorium or lecture-room type of seat arrangement and is adaptable only for tablet-arm chairs or other seats which are entered from the front. Its single advantage is that it is the most compact seating possible, since aisles are dispensed with and the space required for the knees of the sitters is utilized for cross-passage ways. It does not permit of full-size desk-tops. Lighting is the same as in Figure 1, except that pupils sit so close together and the tablet-arms are so placed that work on the arm is almost certain to be more or less obscured by shadows. This type of seating is suitable for lecture purposes where the attention of the pupil is toward the teacher and note-taking is incidental, but it should not be used for work requiring continued reading or writing.

The Author's Plan

Figure 10 represents a plan which the writer has developed after a careful consideration of other plans and of all factors of which he is aware. It is called the "quadrant plan," since it is arranged approximately upon a series of arcs having a center near the left-front corner of the room. It is adapted for any type of completely individualized seating but not for "combination desks" nor for large tables. The diagram shown was drawn on a different scale from the others, but it shows a standard room of the same dimensions by the inner dotted line, and also one 24′ by 32′ by the outer solid line. This plan provides practically perfect light direction at every seat and is unique in providing ideal right-side lighting for the occasional left-handed child in seats at the left-front of the room, which are faced inward. The number so turned would depend on the number of left-handed children to be provided for. The room has a truly unitary focus favorable for socialized activities, and the distribution of seats provides readily for groups of various sizes. The arrangement is essentially flexible and may be varied to almost any extent without sacrificing the essentials. The teacher's desk may be placed anywhere. In some rooms where this arrangement has been tried, the short row of seats at the rear has been removed and the teacher's desk placed there, or this space is used for a bookcase and class reading table. The large open space at the front not only gives the room a very attractive and sociable appearance, but provides an unusually well shaped area for class activities squarely in front of every pupil and at the most used blackboards which are about the right-front corner of the room. Every pupil regularly faces these boards. Pupils do not sit close behind each other, which is favorable both for vision of blackboards and activities in the front of the room, but also for discipline.

Seats in the arcs are separated from each other so far as the number of them and the space limits permit. The number of desks accommodated in the plan shown is the same as in the straight line arrangement, and several more desks may be added by reducing the open area in front. The arrangement is thus decidedly economical as to floor space. The passages not only provide convenient travel lines to the door and blackboards, but are especially favorable for the oversight of the pupils' work by the teacher who passes in front and behind the desks. The ideal of informality is attained without any sacrifice of orderliness or efficiency. The plan has been tried at the suggestion of the writer in a number of rooms with various types of furniture and, so far as known, has been found entirely satisfactory and very pleasing to teacher and pupils.

If movable equipment is used, it is desirable to have the location of seats marked on the floor by paint lines or tacks so that janitors and pupils may be able to keep them in position, though it has been found quite effective to have monitors among the pupils who get the idea in mind and keep the seats approximately as planned. Owing to the flexibility and informality of the plan, getting desks "out of line" is not as noticeable nor as objectionable as with straight lines. One important advantage of the plan is that it may be varied to suit any irregular lighting conditions or unusually shaped rooms. It is very successfully used in one large square room with light on three sides, the arcs approximating a semi-circle with center at the unlighted corner of the room.

Swivel seats, which beside many other advantages, permit the pupil to avoid glare by facing away from the light when and as far as desirable, are adaptable for any of the arrangements indicated. Rhomboid desks are adapted only for the straight line arrangement and turn the pupil equally regardless of the part of the room in which he is sitting. Movable desks may be individually turned with reference to the light without seriously affecting the general arrangement of the room. The advantages of or objections to any of the plans described

(Concluded on Page 169)

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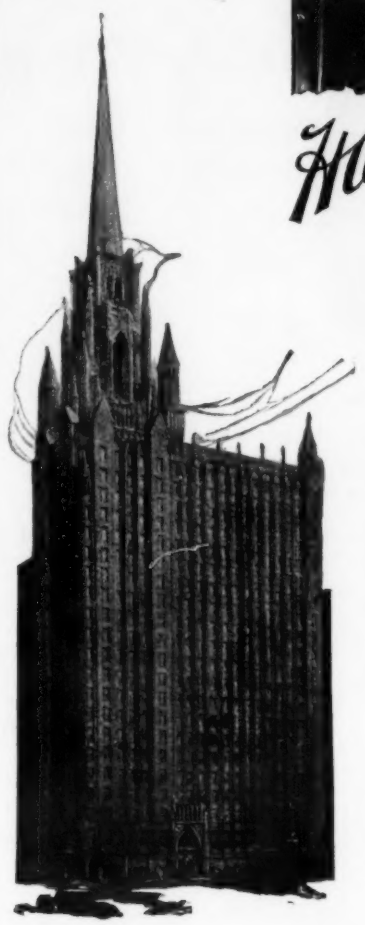

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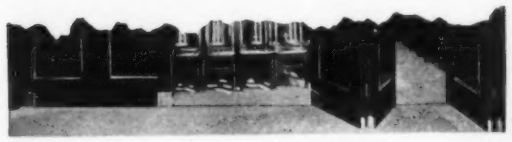

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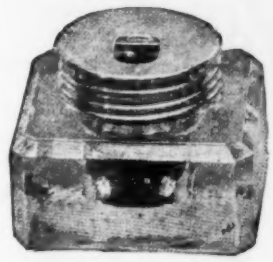

No. 39 Teachers' Inkstand.

JACOBUS wells are used by the largest school systems throughout the country.

(Concluded from Page 166)

are affected by the dimensions of the room and the location of the windows, but it is believed that the essential principles discussed above cover all major considerations and may be adapted to all conditions.

SINGLE, CONTINUOUS, OR DOUBLE SESSION FOR HIGH SCHOOLS—WHICH?

(Concluded from Page 48)

school day, each period to be sixty minutes in length, providing in this way for directed study under subject teachers. Such cities as Pittsburgh and Harrisburg have lengthened their school day."

Professor Thomas H. Briggs, Columbia University, in his book on the junior high school, says: "The junior high school has tended to lengthen the school day for early adolescence. The six hour day, 360 minutes, apparently is the most satisfactory."

In a recent book by Professors Strayer and Engelhardt of Columbia University, it is stated that "A study of fifty cities by Professor Holmes of Harvard University gives an average length of the school day for the eighth grade as 345 minutes or five and three-fourths clock-hours."

But the inability of the home to supervise the academic work of the high school pupil is by no means the most serious problem which a shortened session precipitates. All over the land parents complain about the multiplicity of distraction to which the lives of the young people of today are subject; that it becomes increasingly difficult to control the leisure of their children, or to direct it into profitable channels. To the social distractions of a few years ago, of which we then complained bitterly, have been added not only the claims of countless organizations but also the automobile, the dance hall, the movie, and the radio. What attractions has an algebra lesson to offer, in comparison with a jazz-band concert over the radio? Conscientious but bewildered parents, ask what they can do to counteract these influences. Many of these parents intelligently and conscientiously ask themselves whether they may not more effectively direct this larger leisure to more profitable ends if the schools surrender their children to them for a longer portion of the day.

Parental Obligations

To parents of this type the answer is, that this can be done without change in the length or type of the school session. Recognizing the supremacy of the home, it has always been, and is the policy, of local school authorities to leave in the hands of the individual parent as full responsibility for the direction of the child's education as he is willing to assume and able to discharge. To the extent that parents assume this responsibility school authorities are relieved, and the success, or failure, of the child rests with the parents. Children may now come to the high school for such portion of the day as their other duties and the desires of the parents dictate, provided, of course, that the law is observed. But the large majority of homes from various causes are not equipped and do not wish to undertake the supervision of the training of their children. It is a general recognition of this fact in the country at large, which has brought about in recent years, the remarkable expansion of the functions of the school, and which induces the majority of our conscientious but not educationally-expert parents to surrender willingly to the school the control of a steadily increasing proportion of their children's time.

The desire for a shorter day finds expression among two quite different classes of parents. One is the comparatively small class of highly intelligent and well educated who believe that the home given a larger share of the pupil's time, can do more for his personal development than can the school. As above indicated, no obstacle will be placed by school authorities in the way of the assumption of this responsibility by parents, no matter what may be the length of the school day.

The other class which, from quite different motives, oppose every proposal for the lengthening of the school life of the child, is the class, fortunately not large in this country, who look forward to making their children at the earliest possible moment, an economic asset, and who see in the single session, or the shortened double session, an opportunity for pecuniary profit. To defeat the object of this class, the state has thrown about the child every possible protection. Between these two stands the group that constitutes the great majority of parents of high school pupils; conscientious, anxious to provide for their children the best education their circumstances permit, conscious of their inability to determine what is educationally best, and willing to be guided by the advice of those expert in the field of education to whom they have entrusted the direction of the educational machinery they have provided. For the schools to throw back upon the homes represented by this group the task of supervising the ever-increasing leisure of their children would be to evade the performance of the task for which they were created. In the somewhat extensive and intensive study I have given to this question, I have to record that the tendency is in the opposite direction.

That task is, and has been, from the beginning to supplement the educational possibilities of the home, in whatever way and to whatever extent may be necessary and for the performance of this task, it would appear from the studies cited, there is needed not a shorter but a longer school day.

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Sample sheets on request.

American Tablet & Stationery Co.

GREEN BAY, WISCONSIN

HIGH SCHOOL SCIENCE LABORATORY

(Concluded from Page 54)

or on which to take notes from a demonstration given by the instructor, or they are ready for a brief recitation or quiz.

The combination laboratory is not an absolutely new project. It has been tried out for many years, particularly with home-built furniture. The new feature is the special laboratory furniture, factory-built after scientific investigations, by laboratory furniture manufacturers. The results have been so well received that hundreds of installations have already been made, not only in new buildings, but in old buildings where additional space for classes had to be found because of increased enrollment.

Lincoln School after six years of experience with special furniture permitting the use of the laboratory for recitation and demonstration purposes summarizes the advantages as follows:

1. "All the science work is done by the student in one room and in one place.

2. "Students face the instructor all the time.

3. "Students are comfortable in a standing or sitting position, thus making it possible for them to write notes, make drawings, do reference reading, perform laboratory experiments or observe demonstrations by instructor.

4. Instructor is enabled to give demonstrations, quizzes, direct reference work and hold class discussions in the same room at any time during the science period, thus *eliminating fixed laboratory and demonstration schedules.*

5. "Instructor can see the entire class from any location in the room.

6. "The instructor's labor is reduced by concentrating all tools, materials, and equipment in a much smaller floor space than is usual in the design requiring separate lecture room and laboratory."

WHAT SHOULD THE SUPERINTENDENT EXPECT TO FIND IN THE POTENTIALLY SUCCESSFUL TEACHER?

(Concluded from Page 51)

to possible observation. It is needed by superintendents in smaller cities and towns where so many teachers find first employment and where so many are willing to accept positions only on the ground that they have been unable to get into larger systems or to secure greater remuneration, thus making the problem of selection all the more important.

THE KLAMATH FALLS SCHOOL

(Concluded from Page 60)

A split system of heating and ventilation is used, with direct radiation in the classrooms. The air is driven by means of fans and the Johnson system of temperature control is installed. A master clock, electrically controlled, records the time and rings the program bells and yard sirens.

The building was erected at a total cost of $195,000, including the site. It was planned and erected under the general supervision of H. D. Marsh of Portland and Charles Coseboom of Klamath Falls. The construction work was handled by John Almeter & Son, of Portland. The educational details were arranged by Supt. J. P. Wells, assisted by the members of the board consisting of Mr. C. H. Underwood, Mr. Leslie Bogers, Mr. Oscar Shive, Mrs. Edna Chambers, and Dr. G. A. Massey.

SUMMER CARE OF SCHOOL HEATING AND VENTILATING PLANTS

(Concluded from Page 66)

operation four or five years without having anything done to it, is a good argument to overhaul it and take care of the little details which grow and may give trouble during the heating season when the entire population of the school depends on the apparatus. It will surprise those that will take the trouble to go over the mechanical equipment systematically each year, how much money they will save in the operation of the plant and its equipment, to say nothing of its smooth operation when called upon to be crowded 50 to 100 per cent above rating at times of emergency.

The writer believes that if the engineer can be impressed with his responsibility for the health, the mental and physical development of the student in school or institution, and the importance of providing the proper temperatures and air conditions for the classrooms, we no doubt will have accomplished a great deal. The engineer should make a decided effort to keep his equipment in first-class condition and to assure the proper and economical functioning of the entire mechanical equipment under his care. This, no doubt, is a step in the right direction, which cannot be impressed too forcefully on the minds of those responsible for the health of our future citizens.

THE ADMINISTRATION OF SCHOOL BUILDING PROGRAMS

(Continued from Page 56)

The Associated Architects

Administrative Organization, Type V. This plan of organization referred to as an "association of architects" was reported by but two cities, Niagara Falls, and Buffalo, New York. Buffalo has discontinued the plan, feeling that it was impossible to place responsibility with an association. Under this arrangement the board of education enters into a contract with the architects of the city as a group and is organized into an association for the purpose of handling the school building program. The association selects the architect who is to develop the plans for a school building, and exercises a kind of general supervision and control over the project. While it may appear very

(Concluded on Page 173)

Have You a Little Paper in Your School?

The School News

A facsimile of the front page of a schoolpaper, such as may be published for the purpose of convincing parents of your children of the value of printing in connection with academic and vocational instruction in public schools.

VOL. 2 ANY COMMUNITY, ANY STATE NO. 1

The Value of Schoolpapers

WHAT the newspaper is to the general community the schoolpaper is to the school community. Both publications possess uncommon interest to their readers by the printing of news items, and both have the power of moulding public opinion. One influences mature minds; the other influences the youthful minds. Both are informative and highly educational. Especially is this latter statement true in the case of schoolpapers.

The schoolpaper has one distinct advantage in educational value–it is the product of its readers. To be successful it must represent the combined effort of every class in the school and be of interest to every student enrolled in those classes. The academic classes may be assigned the task of collecting news, preparing interesting articles, and revising the printers' proofs for errors in English construction, spelling and typography; the art classes may have charge of the illustrations and general typographic arrangements; the commercial classes may look after the business end of the publication, such matters as soliciting money for subscriptions or advertisements, making disbursements for paper, inks, etc. The actual work of type composition, imposition, presswork and binding will be done by the printing classes.

No other activity can combine into a single educational unity practically the entire facilities of the institution as does the schoolpaper.

With the installation of printing instruction in a school all the academic work is revitalized. English, spelling, arithmetic, grammar, and art will take on a different meaning to students who have hitherto regarded these studies merely as necessary evils. Taught in conjunction with printing, their great value as vital elements of education is realized.

Request us to send you a chart showing the "Mechanics of Journalism." It is free.

Information: The Education Department of the American Type Founders Company employs the services of professional educators, efficiency engineers and trained salesmen to aid you in establishing printing courses in your schools. With this Company the word "service" is spelled H-E-L-P.

For information write F. K. PHILLIPS, Manager, EDUCATION DEPARTMENT

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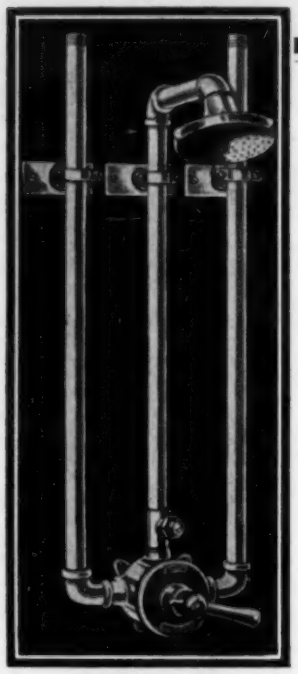

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regulates the force of water from the cast brass shower head which has a removable face with accurate spray holes.

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For School Installation

Consisting of ½-inch NIEDECKEN MIXER, rough nickel plated, with wall support. 4-inch cast brass rough nickel plated shower head, 30 Deg. Ell. connection, *Lock Shield Flow Control* and pipe supports. **No Piping Included.**

The Price is $20.20

Piping is furnished by erecting plumber and can be finished with white enamel paint or aluminum bronze after installing.

Write for Bulletin S. B. 15X

HOFFMANN & BILLINGS MFG. CO.
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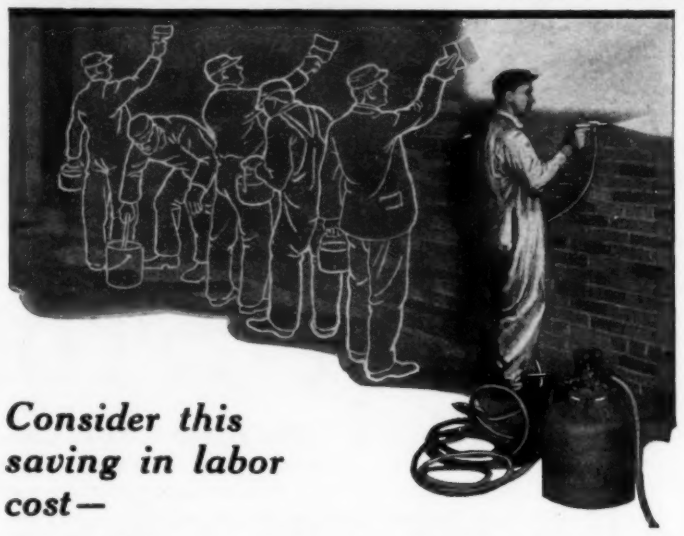
5 Painters' Work — 1 Man Cost



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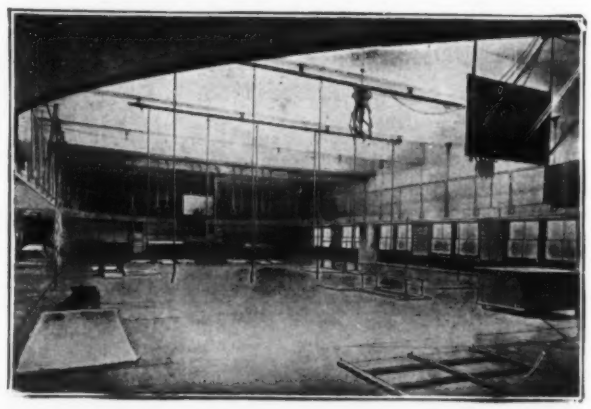

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(Concluded from Page 170)

desirable to have the combined intelligence of all the architects of the city serving the schools in this manner, each man is too much concerned with his own private business to devote much time to the general welfare of the association, and the group is not in a position to be held responsible.

Summary

In the following table the types of organization are distributed according to the population of the cities using each plan of administration. The cities are arranged in four groups varying in population from thirty thousand to over one million.

TABLE 12. Distribution of Types of Administrative Organization by Population of Cities

Population of cities	Type I	II	III	IV	V	Total Cities
Over 1,000,000	0	0	0	3	0	3
500,000 to 1,000,000	4	1	1	3	1	10
100,000 to 500,000	23	4	1	7	0	35
30,000 to 100,000	47	0	5	2	1	55
Total Cities	74	5	7	15	2	103

The distribution of types of organization by cities shows that (1) Type I, which provides for the employment of an architect with full responsibility until the completion of his building, is used by seventy of the ninety cities under 500,000 population, or by 78 per cent of the cities of this class. (2) The "supervising architect," Plan II, has been adopted by five cities. (3) That nine per cent of the cities under 100,000 population are organized under Type III, which provides for a school building department employing outside architects to prepare plans and specifications. (4) That the complete departmental organization plan of Type IV is used in 20 per cent of the cities with population from 100,000 to 500,000, in 33 per cent of the cities with populations from 500,000 to one million population. (5) The "associated architects" type of organization (Type V) has been adopted by only two cities.

THE MAINTENANCE AND RE-CONDITIONING OF SCHOOL EQUIPMENT

(Concluded from Page 70)

Fig. V. Where departments of physics and chemistry hold forth, the students often prove to be rather hard in the use of tops of tables and stands, due to carelessness and accidents in handling acids and alkali.

Laboratory Table Top Finish

Solution A

$CuSO_4$.....125 gr. } H_2O.....1 L.
$KCLO_3$.....125 gr. }

Solution B

Aniline oil....125 c.c. } H_2O, 700 c.c., or Aniline Hydrochlorate, 150 gr.;
HCL (conc.)..175 c.c. } H_2O, 1 Liter.

Give the tops two coats of A. Then apply two coats of B. All coats should be dried before applying the next. The final coat is raw linseed oil rubbed in. Dry two days. Wash with very strong suds, made from the cheapest yellow laundry soap. Dry two days more and if desired to produce an extra resistant finish, rub in melted paraffine with an electric iron.

Long personal experience in my own laboratories, as well as constant observation of the equipment of others, has convinced me that birch, bass, or poplar tops, given a socalled "acid proof" finish are the most practical in the long run. The laboratory shown in Fig. V has all tops made of poplar; it was acid treated in 1914 and has not been refinished since. The carpenters were sent into the laboratories where they planed all tops true and then sanded them smooth. The next day the various solutions were applied. Half a day was allowed between coats, and two coats of each solution were used before the next type was applied. Last of all, the whole job was washed with yellow soap suds made from the cheapest resin soap obtainable, dyed two days, and then covered with chipped paraffine melted in with an electric iron covered with a light canvas to prevent any scratching of the polished face. This proved a most satisfactory treatment since it has not been given further consideration over a period of ten years. An occasional rubbing with vaseline would be of value, however, and is recommended in all cases where a constant good appearance is desired.

On a comparative basis, most equipment can be reconditioned and put back in service for approximately 25 per cent of the cost of the new pieces. It is, of course, best to centralize all work, handling it on a depot basis, with operations arranged as sequentially as possible in order that the best results may be secured with the least outlay.

In conclusion let it be said, that it is more than worth the serious consideration of any board of education, or its superintendent of repairs and maintenance to handle its repair work on a fixed schedule, maintaining when funds permit, a repair shop with its men in regular employ in order that experience may justly increase their skill in this class of work, which has its own problems peculiar to itself.

—Those who have in the past served as superintendents of the Chicago schools have as a rule encountered stormy times. Superintendent William McAndrew has fared no better than his predecessors. He has, however, weathered the storms with great calm and circumspection and compelled achievement. The Chicago Tribune, in an editorial, concedes his victory in the following language: "Superintendent of Schools William McAndrew, for his part, has kept the educational department geared to the general speed of progress. He has made the welfare of the pupil the object of the whole school administration—as it was not before. He has created a new morale in the teaching body, simplified the curriculum, and made efficiency and accuracy the goal. Together with Col. Ellicott, he has furthered citizenship and patriotism in the schools."

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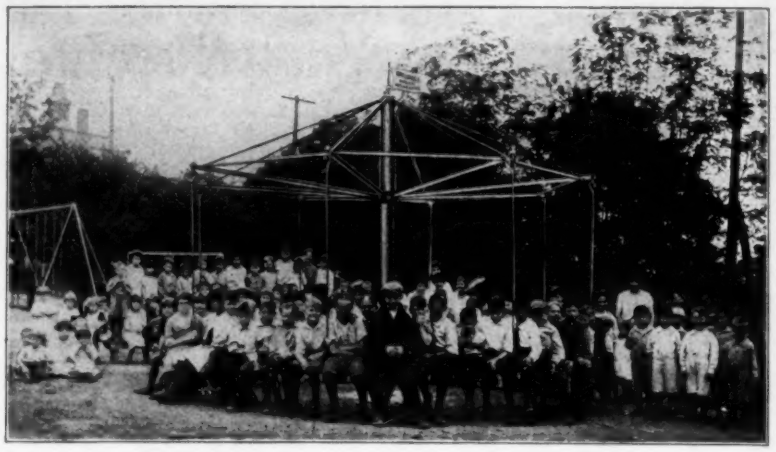

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When planning the equipment for a school building great care should be taken in selecting equipment of the proper type.

The design of the equipment should be such that labor will be conserved.

One of the best means for the conservation of labor and one that receives very little consideration, is the installation of an interior telephone system.

Realization of the important place an interior telephone system occupies in the school building will result in more care being exercised in the planning of equipment.

A few of the uses of a telephone system are:

Instant touch with any classroom from any point of the building

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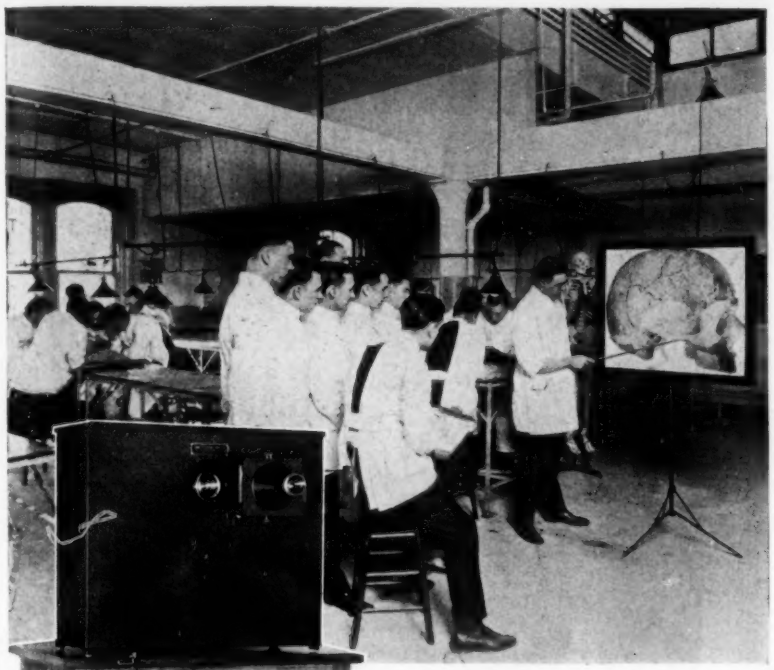

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Learn the Way

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With ordinary methods of instruction the attention of pupils is often scattered about the class room. Objects in and outside the room catch the eye. Minds are distracted. Pupils' thoughts are divided between the subject under discussion and objects not connected with class room activities. Interest lags. Teachers' time is lost in the endeavor to compel attention. Class room efficiency is reduced. And often the efficiency of whole schools is thus impaired.

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Now there is a new method of instruction. A method used by universities and many high schools everywhere. With this new method all illustrations pertaining to subjects to be discussed are mounted on a single compact fixture composed of a number of wings swung vertically on a central pivot. As points are discussed, illustrations are easily swung into view by the teacher. All attention is concentrated upon a few square feet of space. And yet these few square feet give a display area equivalent to all of the blackboard space in the room. Because display area is thus multiplied, these fixtures are called Multiplex Educational Display Fixtures.

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Wherever employed, Multiplex Equipment focuses pupils' attention on the subject being discussed. It compels attention. Thus it avoids distraction. It develops concentration and awakens a keener perception and appreciation of the subject. Teachers' efforts are rewarded with amazing success.

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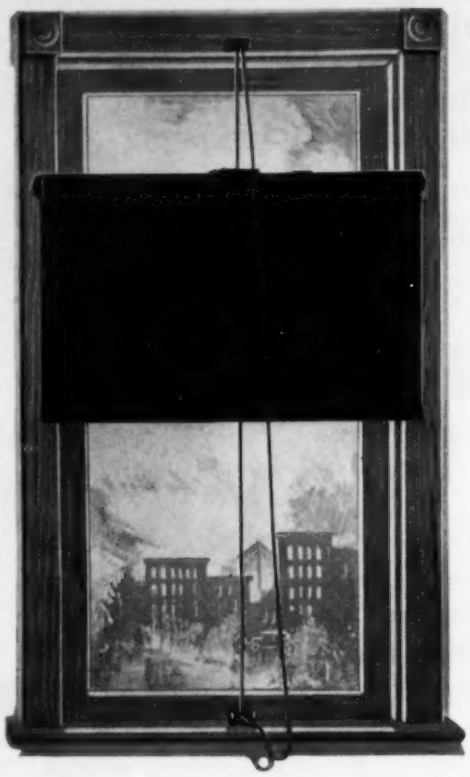

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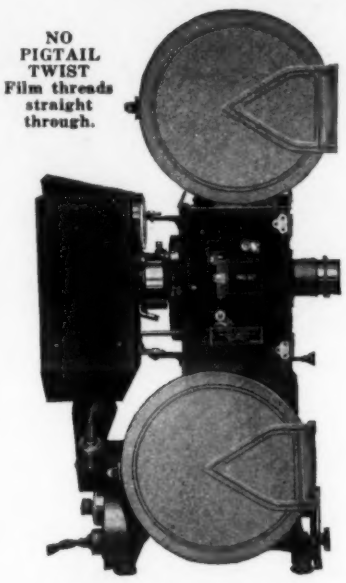

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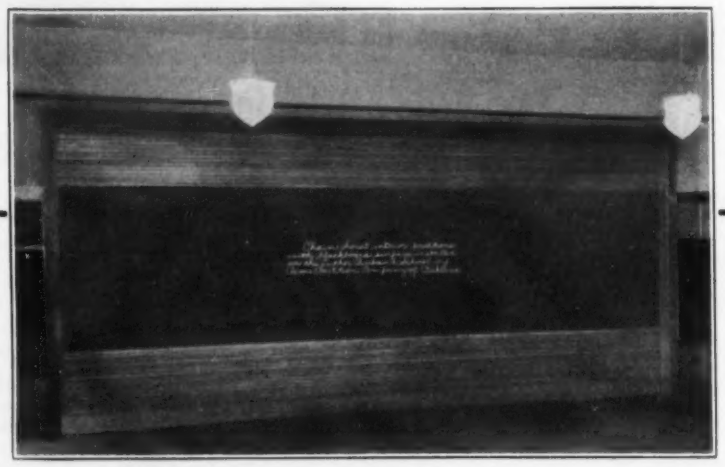

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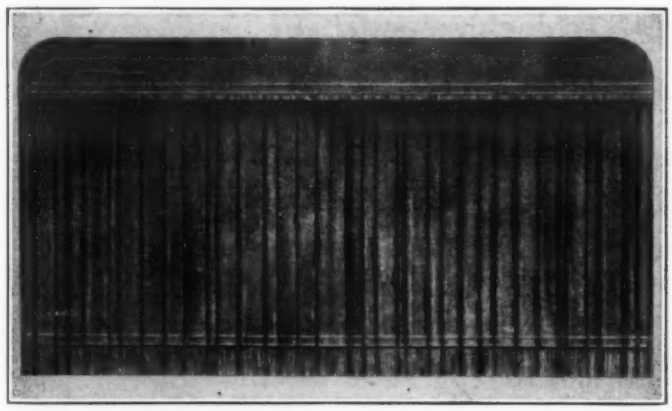

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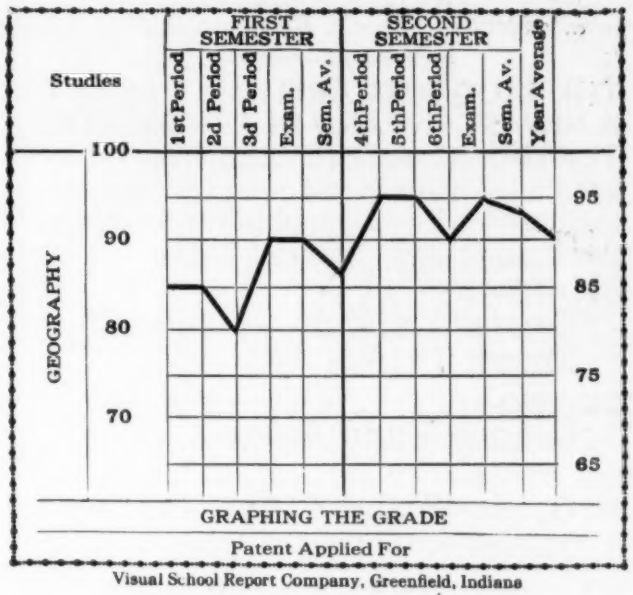

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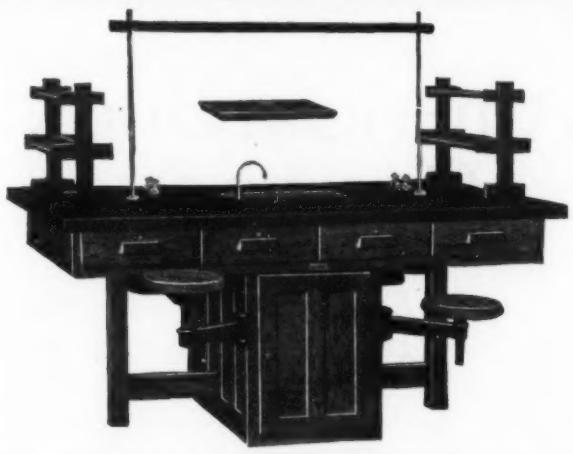

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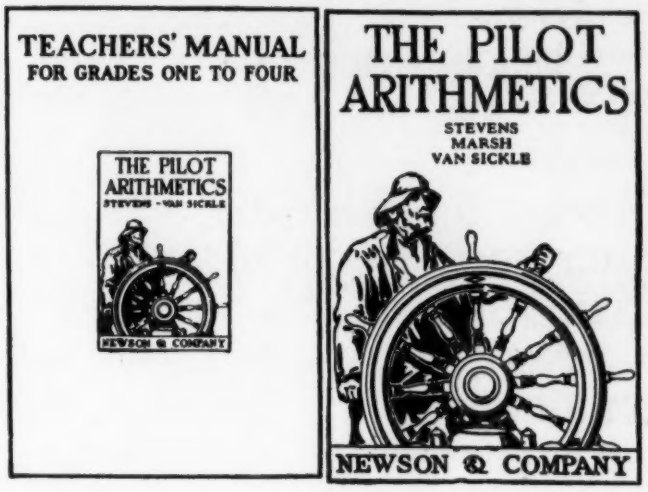

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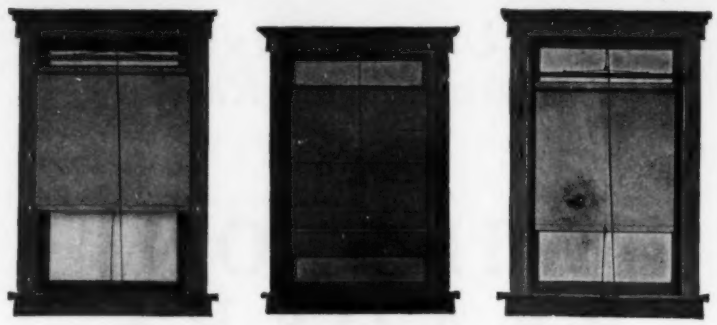

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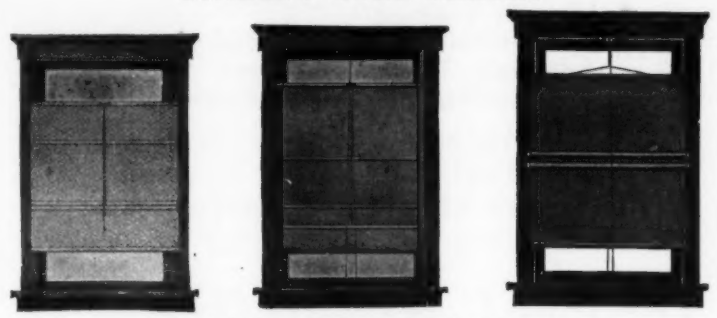

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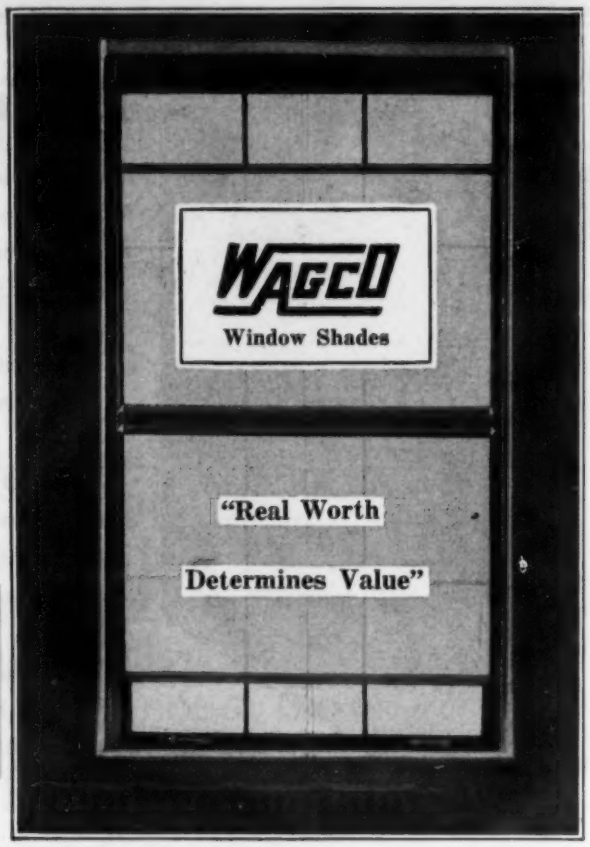

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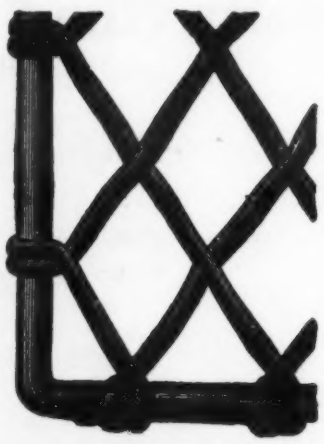

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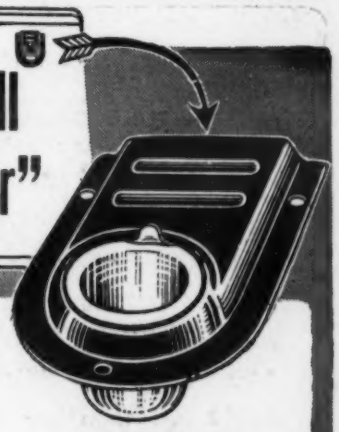

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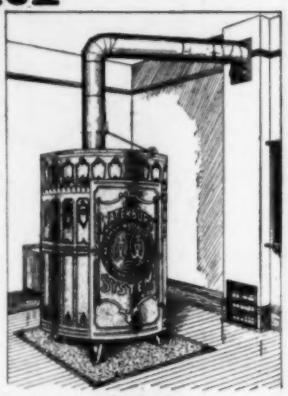

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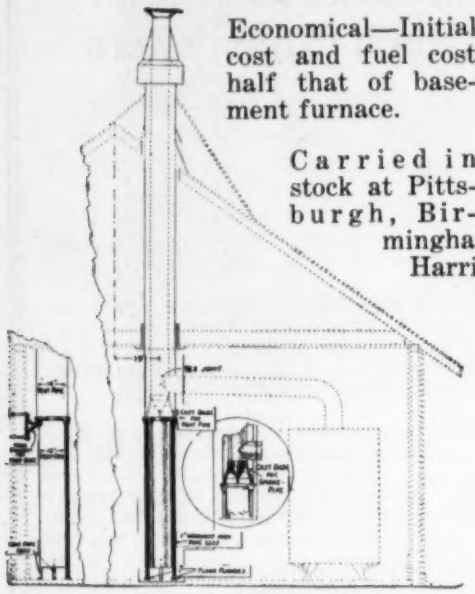

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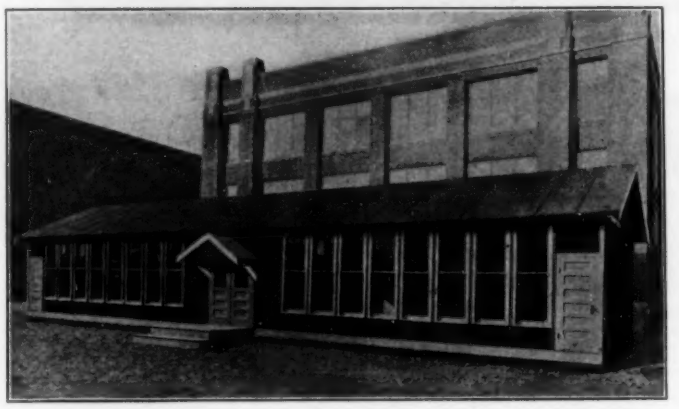

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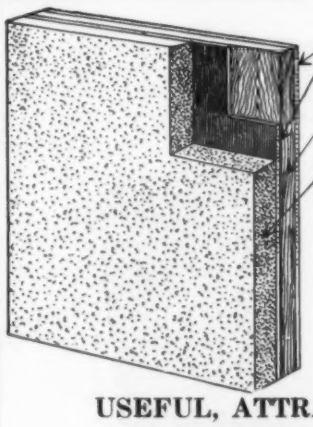

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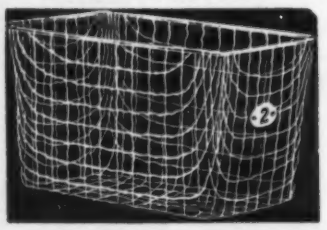

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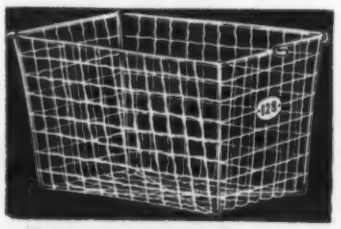

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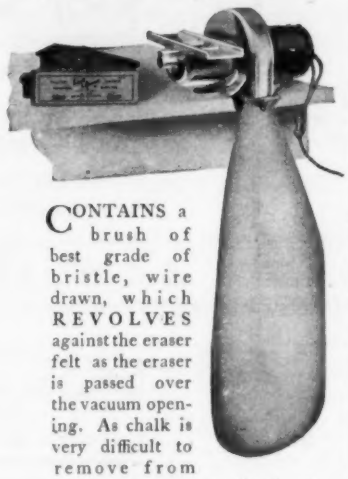

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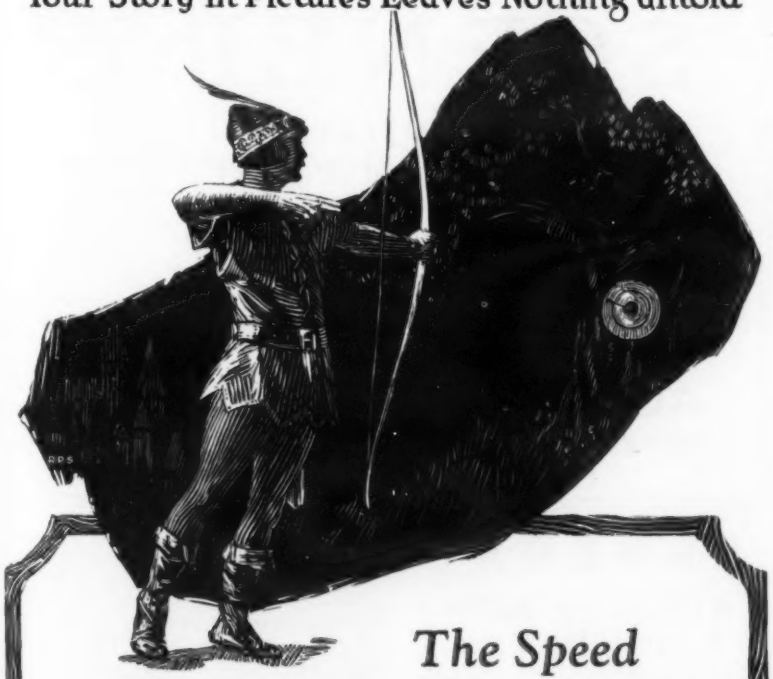

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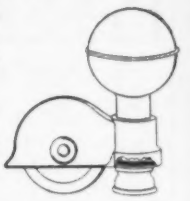

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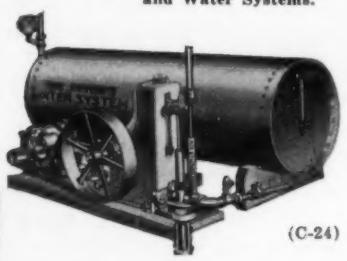

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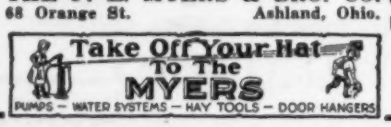

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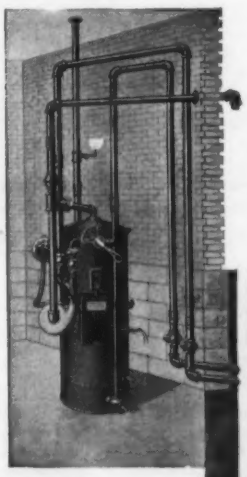

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Provides Schools and Colleges with Competent Teachers.
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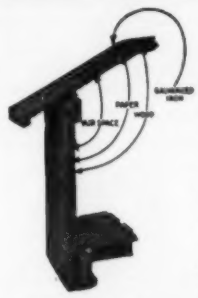

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Write us full requirements and we will send details of cost of building completely erected.

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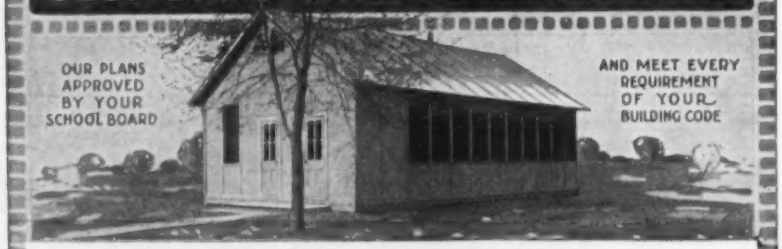
SECTIONAL SCHOOL BUILDINGS



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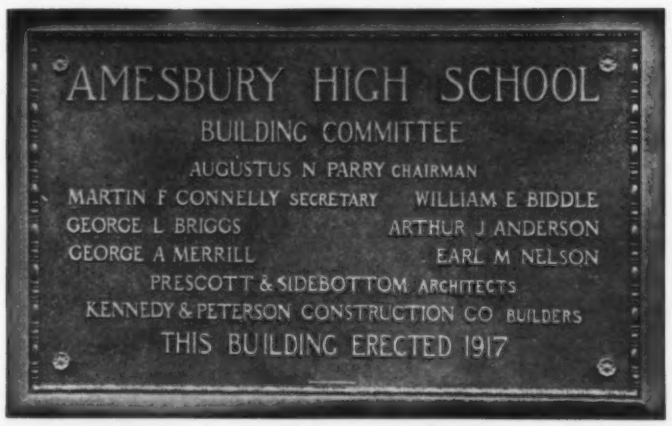

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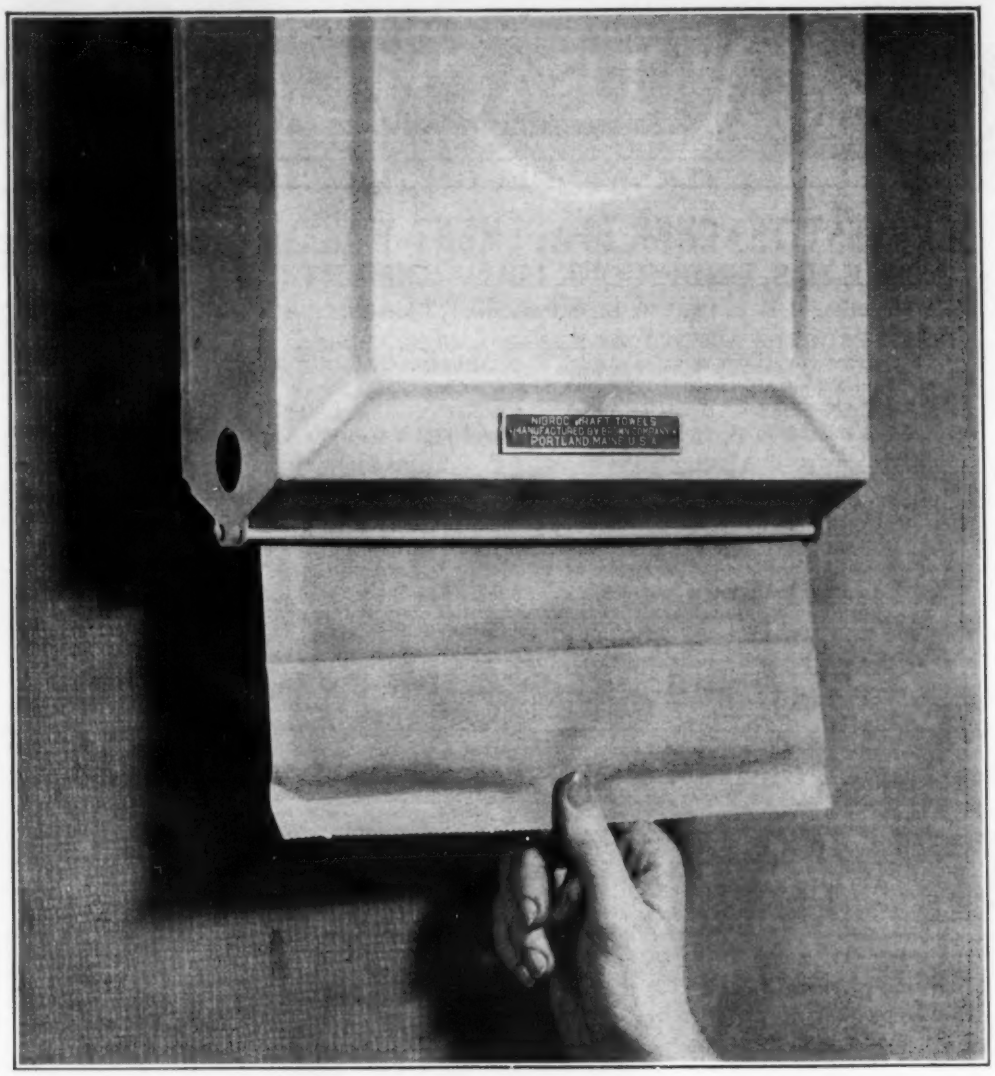
Easy to fill—

Merely open front, which is hinged at bottom. Slip the package of 250 towels into place. Draw out wrapper. Lock cabinet. That's all.



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If the Nibroc Towel **were** made especially to your order, it could not be better suited to school use.

The Nibroc fibre is highly absorbent—takes up the last drop of moisture. It doesn't lint—doesn't tear easily—doesn't get soggy. You can wipe hands and face vigorously with a Nibroc Towel. It is agreeable to use, and leaves a pleasant feeling that encourages children to be clean.

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School Board Journal

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American Blower Company
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ARCHITECTS
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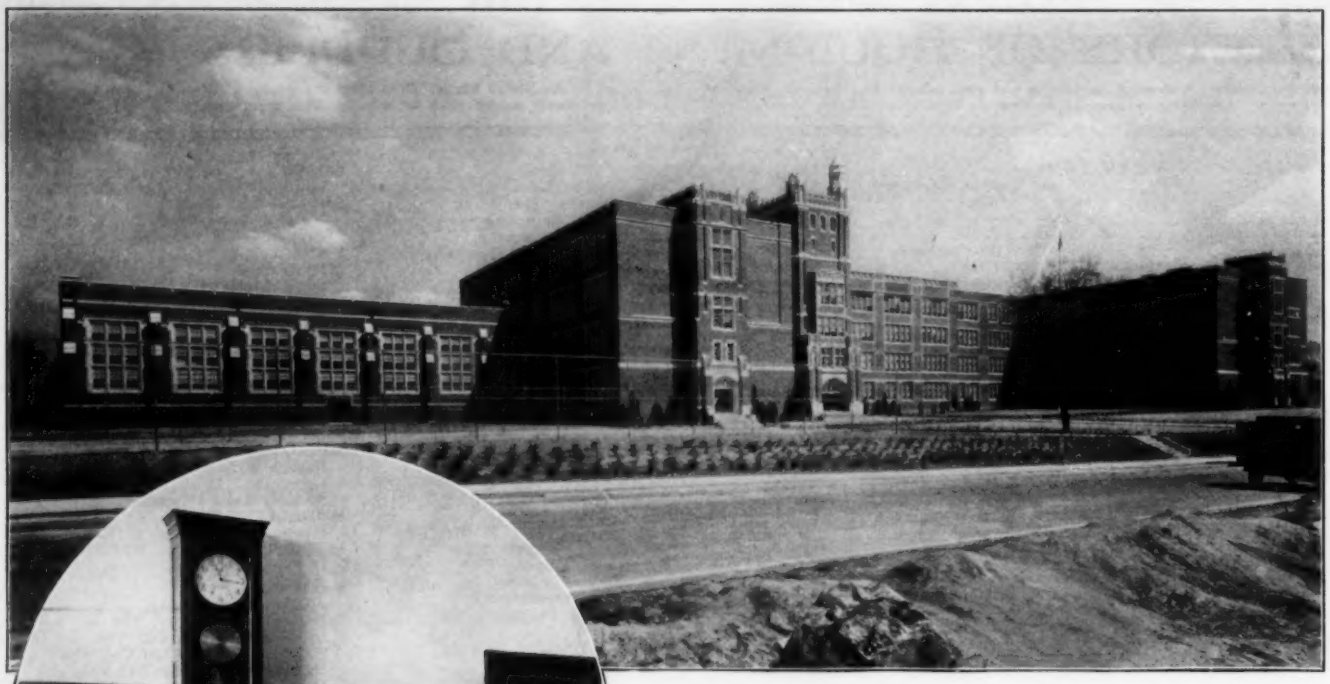

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Tiffin Scenic Studios
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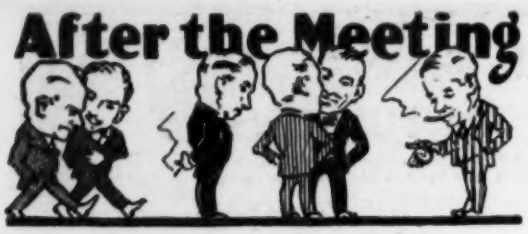

He Knew Too Much About It

A college professor, says the Argonaut, calling at the home of a friend, was engaged in conversation by the latter's small daughter, who apparently felt called upon to entertain the guest. So she announced she would tell him a story.

"There was once a man named Columbus," she began, "an' a queen sent him on a voyage, an' his ships were named the Ninta, the Pinta and—and——" "Santa Maria," prompted the professor. "Yes, and the queen's name was—was——" "Isabella," suggested the professor. "Professor," demanded the child, with sudden suspicion, "have you ever heard this story before?"—Youth's Companion.

100 Per Cent

A teacher asked a boy if he could name an important city in Alaska.

"No, m'm," replied the boy.

"Correct," said the teacher.

And It Applies to Schools, Too!

Teacher: "Harold, what is a crisis?"

Harold: "Sometimes when nobody knows what to do in a hurry."—Boston Globe.

Of the Same Opinion

For a serious misdemeanor, John was kept after school and set to work cleaning boards, erasers, and so forth.

He worked so willingly and cheerfully that the surprised teacher said:

"John, why can't you be as agreeable and pleasant during school hours?"

John replied: "Gee, that's funny! That's just what I was thinking about you."—The Open Road.

Reward

"Why," asked the teacher, "should little boys always be honest and truthful?"

"So our mothers will trust us to wash our own necks," replied Teddy.

He Wished She Had

"William," said his father, who had given his son and heir orders to hurry home from school and clean up the back yard, "what makes you so late getting home?"

"Teacher needed me, sir," was the reply.

"Couldn't she have used one of the other scholars just as well?"

"No, sir. She was lickin' me."

Unavoidable Clemency

Soph: "But I don't think I deserve an absolute zero."

Prof: "Neither do I, but it is the lowest mark that I am allowed to give."—Mich. Vocational News-Bulletin.

Neighborly

Professor (showing guest round garden): "Now, this plant belongs to the Begonia family."

Guest: "Oh, yes, and you're keeping it for them while they're away, I suppose?"

A New Spoke in the Hub

The first day of school a little girl presented herself who looked very much like a true daughter of Italy.

"You're an Italian?" asked the teacher.

"No'm," was the astonishing reply.

"But wasn't your father born in Italy?"

"Yes'm."

"And wasn't your mother born in Italy?"

"Yes'm."

"Well, you must be an Italian."

"N'm," she answered. "I'm Irish. I was born in Boston."—Open Road.

Came By Fast

"Mose," said the night-school teacher, "you haven't been tardy since you moved. Where do you live now?"

"Fo' blocks on de other side of de graveyard."

Sunday School Teacher—"Who was the shortest man mentioned in the Bible?"

Bright Pupil—"Peter."

Sunday School Teacher—"Why, I am not aware of any reference to his stature."

Bright Pupil—"He spoke of it himself, when he said, 'Silver and gold have I none.'"—Chicago News.

BUYERS NEWS

TRADE PUBLICATIONS

A School Wardrobe Catalog. The K.-M. Supply Co., of Kansas City, Mo., has just issued a new catalog, illustrating and describing the Miller wardrobe for school use.

The Miller school wardrobe represents the latest in schoolroom efficiency and economy, and involves the maximum of efficiency, combined with durability. The catalog presents all the information necessary to properly install the wardrobes. The firm offers to furnish blue prints covering any data or information that may be desired by the school official or architect.

Among the special advantages claimed for the Miller wardrobe are reduction in heating expense, perfect ventilation, maximum discipline, security from petty pilfering, additional storage space for wraps, and freedom from dampness and odors.

Information concerning the Miller school wardrobe may be obtained from the K.-M. Supply Company, 117 West Eighth Street, Kansas City, Mo.

Issue Catalog of School Furniture. The Heywood-Wakefield Company, of Boston, Mass., has just issued its new catalog of school furniture, illustrating and describing the Heywood-Wakefield steel constructed furniture in a variety of types.

The catalog illustrates the pressed steel combination desk, recitation or gym seats, adjustable chair desks, stationary chair desks, sanitary pedestal desks, study desks, commercial desks, auditorium seats, both portable and fixed types, tablet arm chairs, and kindergarten furniture, also furniture for lunchrooms, libraries, offices, rest rooms, and halls.

The catalog contains tables of desk sizes for various grades and ages, and tables of seating capacities, also tables of standard sizes, showing height, weight, and floor space required.

The Heywood-Wakefield Company are pioneers in the development of steel construction for school desks, and have had by far the longest experience in this field. The firm uses the best grade of oak, birch and other woods for pupils' desks and the steel used is the socalled pickled steel, which has been freed from impurities, foreign matter, and scale. A special dull finish, which is rustproof, and will not chip or reflect light, has been perfected for use on school desks. A special type of welding is used which builds up from the bottom and sets the pieces in line against the direction of the greatest strain. The screw holes are ribbed and embossed so that the screws cannot pull through. The middle section or pillar of the desks is made from a section of seamless tubing, tapered by machine to the smaller, or upper diameter, and butt-welded to the bottom section by an electric arc flash welder. The top, or cap section, is welded on the pillar in a similar manner.

Where She Looked

"Darling, that encyclopedia you bought is no good at all."

"Why, whatever's wrong with it?"

"This morning I wanted to find out why swallows migrate in winter."

"And you couldn't find it? Where did you look for it?"

"I looked under 'why,' and I couldn't even find the word there at all."

Steel Furniture Catalog. The Steel Furniture Company, Grand Rapids, Mich., has issued its new Catalog No. 26, devoted to modern school seating of the steel sanitary type. The catalog describes and illustrates steel combination and adjustable seats and desks, commercial seats and desks, tablet arm chairs, auditorium fixed and movable seating, teachers' chairs and desks, and kindergarten furniture.

The steel furniture manufactured by this firm has the advantages of lightness, strength and cleanliness. Its lightness saves twenty per cent of freight costs and facilitates its transfer in the schoolroom when necessary. The design is free from useless curves and scrolls and all models are of simple, dignified proportions, in keeping with the finest surroundings and modern ideas of classroom fitness. All types are designed and built to give flawless and enduring service.

Furniture for the Library. Leonard Peterson & Company of Chicago, Ill., have just issued Catalog No. 15, devoted to furniture for the library. The book discusses the functions and planning of the library, and outlines the equipment necessary for a first-class library. It gives a number of suggestive layouts and specifications, and in addition it lists and describes such articles of furniture as book racks, charging desks, tables, book shelving, counters, cabinets, desks, and chairs.

Complete information concerning furniture marketed by the Peterson Company may be obtained by writing to the company at Chicago.

Issue Catalog on Lupton Sash. David Lupton's Sons Company, Philadelphia, Pa., has issued a catalog, describing and illustrating the Lupton projected sash for school windows.

The booklet devotes considerable attention to architectural and industrial types of windows and offers complete details of wall and sash sections and standard units, for the help of school authorities and architects who are engaged in designing and specifying school building sash. The pamphlet is illustrated with typical school installations.

Information concerning the Lupton steel sash may be obtained by writing to the David Lupton's Sons Company at Philadelphia.

New Catalog of Drinking Fountains. The Century Brass Works of Belleville, Ill., has issued a catalog describing and illustrating sanitary drinking fountains, ice-cooled fountains, and similar specialties manufactured by the firm.

The complete line covers every practical need, and each type is manufactured of the best materials and under ideal working conditions. The fountains are of many different styles and sizes, each designed to fit certain interior conditions and to meet requirements as to design and operation.

Information concerning the complete line of drinking fountains put out by the Century Brass Works may be obtained by writing to the company at Belleville, Ill.

Summer School of Visual Education. The DeVry Corporation, manufacturers of the DeVry Motion Picture Projectors, will conduct the second session of the summer school of visual education in Chicago, beginning with the week of August 23rd. The school is entirely for the benefit of teachers, and is free from tuition, the expense being borne by the Corporation.

The instruction is not limited to motion pictures, but involves the theory and practice of visual education in schools. It will include slides, museum exhibits, stereographs and other modern visual aids for use in school work. Daily showings of the best educational films will be made.

The school has a staff of fifteen lecturers and is in charge of Mr. A. P. Hollis, formerly director of college visual education. Prominent on the staff are Mr. Dudley Grant Hays, director of visual education in the Chicago public schools; Prof. W. H. Dudley, chief of the bureau of visual instruction of the University of Wisconsin, and Mr. F. W. Perkins, head of the office of motion pictures, U. S. Department of Agriculture.

Library Bureau Proves That Practical Library Furniture Can Also Be Beautiful and Harmonious

THE delightful Knight Memorial Library, Elmwood, Providence, R. I., forcefully shows the value of Library Bureau experience and ability. Here the original and distinctive design of the charging desk and other technical equipment is coupled with the lasting quality of durability that is characteristic of all Library Bureau furniture.

This combination of quality and durability with beauty, harmony and distinction is the ideal of every library. Only the most experienced designer of library furniture is sufficiently familiar with library conditions to put strength as well as beauty into his work.

Library Bureau is proving each day as it has demonstrated for many years, that distinction in design can be obtained without overlooking the standards of durability.

All Library Bureau furniture is made to give the greatest value for the outlay from library funds. Library Bureau construction proves that the best furniture requires no later expense for repairs. In many libraries, there is today in use Library Bureau equipment that was installed 10, 20, even 40 years ago.

Librarians, Library trustees and school and college authorities have written many letters of appreciation for both the grace and fitness of Library Bureau equipment and its long life. If you have before you any question of library equipment Library Bureau is willing that you should share the benefit of its experience.

Your questions will have prompt attention. Address them to the Library Division, 118 Federal Street, Boston, Mass., 380 Broadway, New York City, or 214 West Monroe Street, Chicago, Ill., or Pacific Coast Distributors, McKee & Wentworth, 759 So. Los Angeles Street, Los Angeles, Calif., McKee & Wentworth, 39 Second Street, San Francisco, Calif., McKee & Wentworth, 447 Dexter Horton Building, Third Avenue and Cherry Street, Seattle, Washington.

Library Bureau

Division: RAND KARDEX BUREAU

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WEISTEEL
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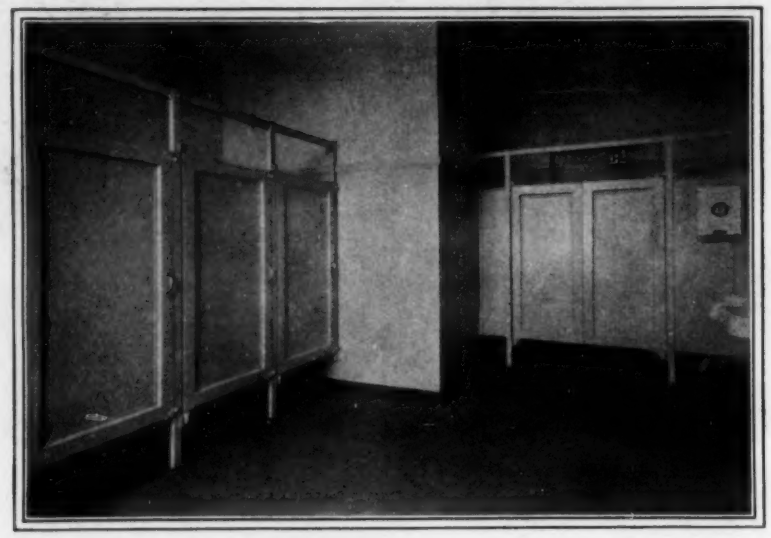

Roosevelt School, Framington, Mass.

Architect, Charles T. Baker

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THE sole purpose of the Weisteel Cooperative Plan is to help you. Many years' experience in designing and supplying Weisteel compartment installations is brought to your aid through this plan. It costs you nothing and is a valuable help.

Weisteel toilet, shower and dressing room compartments are ruggedly built to give lasting service under rough school use, yet they harmonize with other quality equipment. More Weisteel compartments are used in schools than any other make.

Just send us a simple layout of your space and plumbing facilities—we will forward full recommendations and quotations with no obligation on your part.

Weisteel Cooperative Plan

Send us rough layout of toilet rooms, indicating plumbing facilities and requirements. We make up complete plans and specifications for your particular requirements and send them to you with quotations.

Compartments are shipped with simple diagram and complete erection instructions indexed to numbered compartment sections. No fitting, cutting or drilling is necessary when erecting Weisteel, and it is virtually impossible to make mistakes. Specialized labor unnecessary.

In replacing old installations, this Plan saves you much time, cost and worry. It assures you that the completed installation will be fully satisfactory. For new building installations the Cooperative Plan is equally valuable in working with the architect.

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4. **All joints are closed and sealed. No ledges or crevices to catch or hold dirt.**
5. **Pleasing yet practical designs harmonize with other quality equipment.**
6. **Weisteel Cooperative Plan saves you time and cost.**

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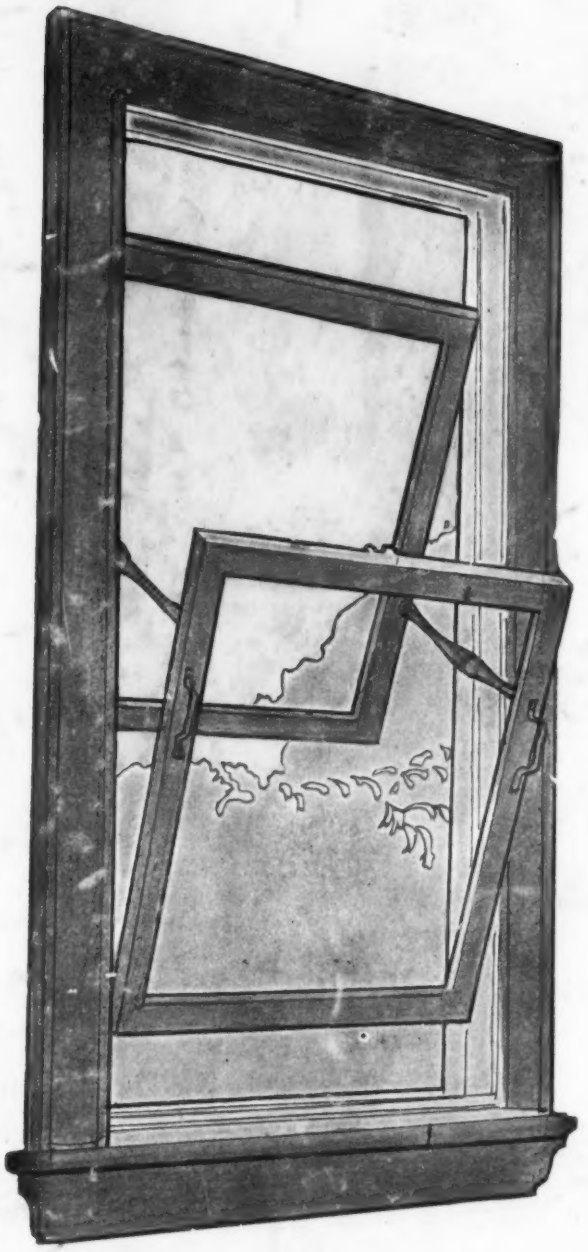

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